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Among the Flowers.

BY ANNE G. HALE.

II.

Hanging baskets and their plants.

FOR the cultivation of low standard plants, especially such as are of spreading growth, and climbers and trailers, hanging pots or baskets are very desirable. Many of these are, in themselves, beautiful, and when filled with luxuriant vegetation are, of all floral embellishments, the most effective. They are also the most unobtrusive. Where there is no room for a flower-stand, or the lower part of a window is needed for other purposes, a basket or pot may be suspended above, out of the way of other arrangements, and its contents thrive and flourish better than their companions in the lower atmosphere. Throughout the cold weather, in every occupied apartment where there is a window, there is room and opportunity for something of this sort, which, while enhancing the charms of all inner appointments of the house, will lend great attractions to its outer appearance.

Nor is this beauty available only for cold weather and within doors. After a month of rest in the spring, these same baskets and pots, having been put in readiness for new growth, may serve as ornaments for the varendah or the garden all the summer; the frosts of early October being the warning signal for removing them to the parlor. This convenience and ready adaptability commend them to general use. But the amateur in floriculture prizes more highly the simplicity of management and the ease of culture which they afford. For basket plants are allowed to grow almost at their own sweet will, after Nature's own designs of grace and symmetry, seldom needing more than a touch of the finger-tip to direct their young shoots into lines of beauty; the basket itself requiring no more powerful agency to give all its contents an equal share of sunshine and shade. So any suspension arrangement for flowering plants is especially appropriate for those ladies who have little leisure for the training of standards, and neither time nor strength for the care and cleansing of their pots or the changing of their positions.

The salmon-colored pots—of slack-baked clay—which rest in deep saucers that are furnished with chains to hang them by, are the most suitable for holding single plants. They are also the healthiest; for, besides the hole at the bottom for draining, the material of which they are made is porous enough to expel much of the excessive moisture from the soil. Then, the saucer being admirably contrived for holding all drippings and drainings that would otherwise fall to the furniture and carpet of a room, makes them favorites with all lovers of neatness, which, of course, all flower-fanciers are.

The glazed pots, hung from their brims by strong cords, wear an air of great neatness, and for this, merely, are preferred by some persons. But the small holes drilled near the apology for a saucer that is attached to their base are of little use as outlets in case of over-watering, and yet by their almost continual dripping vex many a patient soul who, even among her flowers, must have a mind intent on tidiness; while the fate of most plants that are set directly in these pots is like that of the brothers immured in the castle of Chillon—one after another pines and dies, decay creeping from the root upward, because the soil becomes sour and corrupt. They will do very well to hold a smaller unglazed pot, with a good saucer, or if there is plenty of moss packed around this inner pot to absorb its moisture.

Large sea shells (nautilus or conch are best) will hold soil enough to support trailers, and are a tasteful window ornament. Drill three or four holes in them and insert cords to hang them by. The rind of the gourd and of the scallop squash, make elegant baskets for drooping plants. Cocoa-nut shells, whether in their natural state or embellished with rustic work, are pretty as hanging-pots. So also are the iron urns used upon stoves for the evaporation of water—and not unfrequently their covers; these are often of tasteful designs, and if painted green or brown look finely partially covered with vines or trailers.

Handsome baskets of rustic work and exceedingly pretty wire vases and baskets, having appliances for suspension, may be found at flower stores. These are generally rather expensive. Any one who can handle a jack-knife and a screw-driver, can make the first, and whoever can use a pair of pincers, the latter.

A simple and yet a pretty rustic basket may be made of three forked branches of any old tree—the more thickly bestudded with little branchlets, and the more gnarled and mossy, the better. Get those with drooping gray-beard moss, if possible. The sticks should be less than an inch in diameter and six or eight inches in length. Unite the three forks by their heads, winding them with very strong twine or pliable wire, and then with the same material fasten the branchlets here and there, to form a sort of lattice-work, and wind the gray moss over all fastenings. Then in the same way attach stout cord for handles. Set in this a common clay pot with its saucer, crowding around it all sorts of moss, and you have "a thing of beauty."

A wooden chopping-bowl makes a nice large hanging-pot for "a happy family" of various standards and trailers. Paint this a dark brown, and bore in it a number of holes; these are to hold the screws that will fasten its rustic work. Get gnarled and crooked grape-vine roots and branches, or beech and oak boughs. Cut these into pieces of such length as will surround the bowl in basket form, and strip off the bark. Bore two or three holes in each piece with a gimlet or a red-hot nail or wire, and by means of these holes screw the branches to the bowl. In the same way, or with glue, fasten upon and among them fir or larch cones, or birch-burrs and acorns in their cups, and then varnish the whole. Before filling soil into this basket, line it with a thick layer of moss to absorb all excess of water.

Wire baskets and vases may be made of any shape. Use annealed wire. Cut from this, with pincers, five or six pieces six or seven inches long; then tie around the middle of some well-formed bowl or vase a strong cord, and under this cord pass these wires, arranging them at equal distances, and bend them with the help of the pincers to the shape of the bowl or vase. Weave the long strip of wire in and out among these wires two or three times around the model, to keep the shape, and then cut the cord and continue the weaving till the basket is as stout as you desire, and at the last bend and twist the ends tightly to keep all fast. Twist handles of wire, or tie strong cords at the rim to hang it by. Place within this a lining of the soft, creeping moss that grows about the roots of old trees, and you have an elegant receptacle for a common flower-pot that holds either standard or creeping plants.

Moss baskets and vases may be made by taking for a foundation these wire baskets before they are closely woven, surrounding them with strips of paste-board, which is completely covered by pasting or glueing upon it gray and green lichens, with a few bits of the creeping green moss and a little of the coral or red-cup moss: if none of this last can be procured, heat red sealing-wax, and with it touch the rough edges of some of the lichens. By the exercise of a little ingenuity these baskets are very tasteful affairs, especially when occupied by pots holding thrifty plants.

Good garden soil is the best for hanging pots. Some plants need this slightly modified,

however, by mixing common sand with it; others require leaf mould or bog earth, or the soil from the margins of ponds and woodland streams, in small proportions; but where these cannot be obtained, garden soil, enriched by the fertilizer mentioned in the previous paper, gives very satisfactory results.

A fine low standard for a small hanging basket is the Primula Sinensis (Chinese Primrose), bearing white or crimson flowers. Soil—two parts garden mould and one part sand. Water often, but slightly. Raise from seed or division of the root in sandy soil. Take offsets from old roots in May, re-set them in fresh soil and keep the pots in the shade till September. Gloxinias—flowers of rose color or crimson—make a fine display in similar pots. They need the same soil as the Primula. Water scantily, except when in bloom. Propagate by division of the roots, or a single leaf set in damp sand. Just within the edge of the pot set Lysimachia nummularia (Money plant), Nepeta Glecoma (Ground Ivy or Gill over the ground), or Coliseum vines. These have yellow, blue, white flowers. They will throw out trailers three or four feet long. Twine some of these around the chains or cords that sustain the basket.

In the same sort of pots and soil, with the same drooping plant, Cyclamen punctalum, or C. persicum—flowers white, pink or purplish—are very pretty. When fresh soil is given, old bulbs start new ones, in September, after the summer's rest in the shade. Or a root or offshoot of Mesembryanthemum crystallinum (Ice-plant or Spangled beau), whose stems and leaves, when the sun shines upon them, glitter as if covered with pearls and diamonds. One of these plants will soon spread over the surface and hang prettily around the basket. The flowers are small—pale crimson or white. Or two or three Verbenas—white, scarlet and maroon, or white, pink and purple—spreading and drooping, and creeping and climbing as they choose; they flourish much better thus than when trained and trimmed. Start new plants from seed, or small branches, every June. Keep them rather dry, and shaded, till September, then give them plenty of sunshine and increase the water, but never water them very freely.

In baskets of the same size—six inches; but in good garden soil only—set a Nierembergia gracilis, with its slender stems and fine foliage and pretty white or lilac flowers, together with a Mahernia odorata, of similar habits and foliage, with blossoms of pale yellow, very fragrant; and a Lobelia cœlertina, or L. gracilis, with its tiny leaves and delicate white or blue flowers, that will droop over the basket's rim. Start these plants and treat them like Verbenas. Or Petunias of various shades, giving them the same treatment and allowing them to grow as they choose, like Verbenas. Or three or four bulbs of Oxalis, which, if started in August, after three months of complete rest in a dry state, will fill and cover the whole basket with their foliage and flowers from November till April or May. The varieties bearing white, scarlet and yellow, make a pretty group, or pink and white and purple.

Baskets a foot in diameter, filled with the same soil, may hold a zonale geranium—Tom Thumb, Fire King, or Mrs. Pollock; or Mountain of Snow, with its white-bordered leaves—and an Ivy-leaved geranium to climb up the handles; with a Maurandia, a Solanum, or two or three Vincas to trail around the brim and about the basket. Raise these all from branches rooted in sand under glass in May. Water frequently, but sparingly, till in bud, then give the fertilizer mentioned in the previous chapter, and plenty of water.

"A happpy family," to fill a very large basket of good garden soil, should have one of the geraniums above mentioned for its centre; a Euphorbia, with silvery foliage; Cirsus, crimson; Coleus, maroon or bronze; two Begonias, white and blush colored; a Bouvardia, scarlet flowers; a Sanguinaria, white flowers, and mignonette and alyssum, with money plant ground ivy, Irish ivy, Madeira vine, Solanum and Maurandia for climbers and trailers. Raise the standard plants from slips or branches rooted in wet sand, under glass, in May or June. Transfer them to the basket in September, and at the same time set with them cuttings of the vines. Keep the basket in the shade and water it scantily for a month; then give it the full sunshine and water enough to keep the soil from crumbling. When buds appear on any of the plants, give it the fertilizer once a week for two months. Be sure that the air of the room in which it hangs is moist by the evaporation of water upon the stove or furnace, and open the window near by twice a week for a quarter of an hour, shielding the plants from the draught by newspapers pinned into cone shape around the basket. With this management the "happy family" will be your pride and delight.

Two New Pears.

BY CHARLES DOWNING, NEWBURGH, N. Y.

Summer Beurre d'Aremberg.

(Beurré d'Aremberg d'été.)

THIS new pear was raised from seed of Beurré d'Aremberg, by Thomas Rivers, of Lawbridgeworth, Herts, England, and fruited in the garden of James H. Ricketts, of this place, the past season, from a tree imported from Mr. Rivers.

The tree is a healthy, vigorous, upright grower, and judging from one season's fruiting, an early and abundant bearer.

Fruit, below medium in size, oblate, obtuse, pyriform; skin pale, greenish yellow, considerably netted and patched with russet, especially around the calyx, and pretty thickly sprinkled with russet dots; stalk long, rather slender, a little inclined, inserted in a small cavity; calyx closed, or partially open; segments short, erect; basin narrow, deep and much furrowed; flesh whitish, a little coarse, juicy, melting, sweet, slightly vinous and slightly aromatic; quality very good; ripens last of September and first of October.

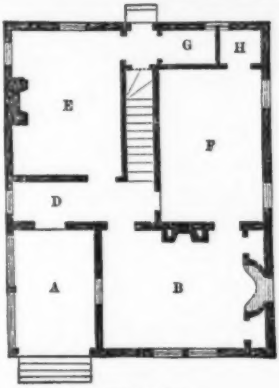
BEURRE D'AREMBERG. BRITISH QUEEN.

British Queen.

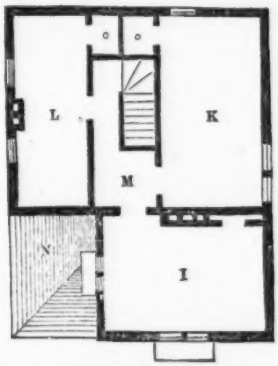
An English variety, which fruited here for the first time the past summer, and was of fine quality. It was raised by Mr. Ingram, of Frogmore, England, and said to be a seedling from the Seckel, crossed with the Marie Louise, and from what I have seen of it would think it a vigorous grower, an early bearer, and very productive.

Fruit medium, obovate, pyriform, slightly obtuse; surface a little rough; skin yellow, mostly covered with a light cinnamon russet, sometimes brownish red in the sun; stalk rather short inclined, inserted in a small cavity; calyx half closed; segments short, narrow, erect; basin rather small, uneven; flesh whitish, fine grained, melting, buttery, juicy, sweet, slightly vinous and rich; quality very good; ripens in October and first of November.

A Convenient Cottage.



Ground Plan.



Chamber Plan.

OUR illustration of a Cottage this month is simple, yet attractive. With nearly every one just building a new house, the aggregate expense is usually so enormous before completion, that many a purse is sadly depleted, and the other improvements contemplated are necessarily deferred to an indefinite period in the future. The above design, in the hands of a tasty and competent architect or carpenter, can be erected in the suburbs of any of our large cities for less than $4,000, or in the rural districts, where building materials are cheap and convenient, for less than $3,000—perhaps $2,000—and still permit a large amount of ornamental, but substantial work without and within. The dimensions are as follows:

House, 25 ft. by 32 ft.
A. Verandah, 8 ft. by 12 ft.
B. Parlor, 11 ft. by 16 ft.
D. Hall, 4 ft. wide.
E. Kitchen, 10 ft. by 14 ft.
F. Sitting and dining room, 10 ft. by 15 ft.
G. H. Closets.
I. Bed room, 11 ft. by 16 ft.
K. Bed room, 10 ft. by 18 ft.
L. Bed room, 7 ft. by 18 ft.
M. Hall, 6 ft wide.

The only noticeable peculiarity of the design is the parlor window, arranged so as to admit of its being used for the purpose of a window conservatory for growing flowers and ornamental plants.

Ornamental Trees.

Birch—American White.

THOSE of your readers who have crossed the large prairies of the West in winter, can readily realize the beauty there is in a grove of trees, and how only a "patch" of them "looms up" up in the distance, when viewed as far as the eye can see it, and how deceiving it is as you draw near, to find instead of a forest to travel in, it's only the surrounding of a farm-house. Yet, thoughtful farmer, we said, you have enlisted in the cause of HOME ADORNMENT. Trees, fruit and flowers will be sure to thrive in your hands, and the land owners and their families will, ere this generation passes, have cause to rise up and call you blessed. Here we are upon a forty-mile prairie in Iowa; no timber in sight save that which man has planted. Sure this is an oasis, where we will rest, and with a barrier between us and the north-western, we will think that this man's buildings and stock are well protected, and his farm the first to be sought for in market, and all is sheltered from the fierceness of the weather simply by clumps of trees judiciously planted. Reader, did you ever realize how little the cost and how changed the aspect. The one would seem a little paradise on earth, so cool and shady, and yet so mild and temperate at the season when zero tells the story to all surroundings. We often wonder, and express surprise, at the dilatoriness of the prairie farmer at so great a remuneration at so small an outlay. The one is a home where all will delight to dwell; the other a mere domicil, man's journeying place, lingering but a little while and then ready to move.

But I started out to say something of one of the best of our ornamental trees. The White Birch is found very common in the State, along the banks of streams and rocky cliffs; remarkably easy to transplant, and of rapid growth. There are many sorts; the white class being valuable and perfectly hardy and ornamental, and very vigorous, and seems to be well adapted to the soils of the West. The white, or, as it is sometimes called, the yellow, is specially desirable. The silver whiteness of the trunk, in contrast with its surroundings; its straight, spiral form, and, added to this, the long, dark, slender branches which, with a little age, become very drooping, and we can hardly name a tree that will give better satisfaction than the American White Weeping Birch, either in clumps or single specimens.

O. S. W.

MADISON, WIS.

Editorial Notes.

The *Cut-leaved Weeping Birch* (laciniata pendula) has now become the most popular of the varieties of the Birch for use in ornamental grounds. Combining grace with miniature stateliness, and peculiar beauty of bark, the slender drooping branches and delicately cut leaves enable it to become an almost indispensable ornament for the lawn or the shrubbery. The finest specimen we have ever seen is in the grounds of T. C. Maxwell & Co., Geneva, N. Y., the height of which, as nearly as we can remember, is about fifteen feet. The accompanying illustration is one of a tree standing in the grounds of Ellwanger & Barry, Rochester, N. Y. Undoubtedly there are many specimens in this country still larger.

John Grigor, the eminent Scotch arboriculturist, than whom we think there is no superior in England or America, gives a few notes on the birch, which we quote:

"The common tree, where wild, attains a height of about thirty feet, and the weeping variety about forty feet; but both sorts rise to a much greater height when formed in plantations, particularly when interspersed with other trees. Some of the finest weeping birches in Britain stand on the banks of the river Findhorn, near Forres, in Morayshire; these are sixty feet high, with trunks upwards of two feet in diameter, and display pendant masses of spray ten feet in length, adding a graceful variety of verdure to scenes in themselves of great beauty.

"In nurseries the weeping variety is the kind chiefly cultivated, and notwithstanding the disposition of the plant to grow wild, it is generally the most uncertain nursery crop of any hardy tree.

American White Birch.

"*The Weeping Birch* commonly attains the age of fifteen or twenty years, and in a cultivated state twenty or thirty feet in height, before it assumes a pendulous form. The extremities of the more vigorous lateral branches then begin to droop, while the top shoots generally hold on in an upward direction until the vigor of the tree subsides. The beauty of the tree, when embellishment is the object, may generally be much enhanced by a careful thinning out of the branches when they appear in a thicket in the top. Immediately after the lateral branches first begin to take a downward direction is the time for thinning them, at the same time giving the surface of the ground, for a few yards in diameter around the trunk, a coating of two and three inches deep of thoroughly rotted manure and decayed leaves, removing all surface vegetation on the ground before applying it. This adds vigor to the descending spray, the beauty of which, on well-grown specimens, is surpassed by no other kind of pendulous vegetation.

"The *Cut-leaved Weeping Birch* is one of the most elegant trees of its class in cultivation. It is propagated by being engrafted on the common sorts. Although it often produces shoots of great vigor when placed on strong stocks, sometimes three feet in one season, yet it only becomes a small tree, seldom in the north of Scotland exceeding twenty feet in height. It has the advantage of at once assuming the pendulous habit of growth; but the tree, though of great elegance in foliage and form, is not so robust and enduring as the native weeping tree."

Governor Wood Cherry.

THE horticultural world are greatly indebted to Dr. J. P. Kirtland, of Cleveland, O., for a large number of seedling cherries, the largest portion of which have proved to be of more than average merit, and one at least, the Governor Wood, hardly excelled in popularity and suitableness for general culture. At the late session of the American Pomological Society, after counting up the aggregate votes of the members in behalf of their favorite cherries, the Governor Wood, Coe's Transparent, and Downer's Late received the largest number. The general expression in favor of the Governor Wood admitted it to be successful in nearly every locality wherever tried, East, West and South, while its quality entitles it to rank as "*best.*"

The following is a correct description by Elliott:

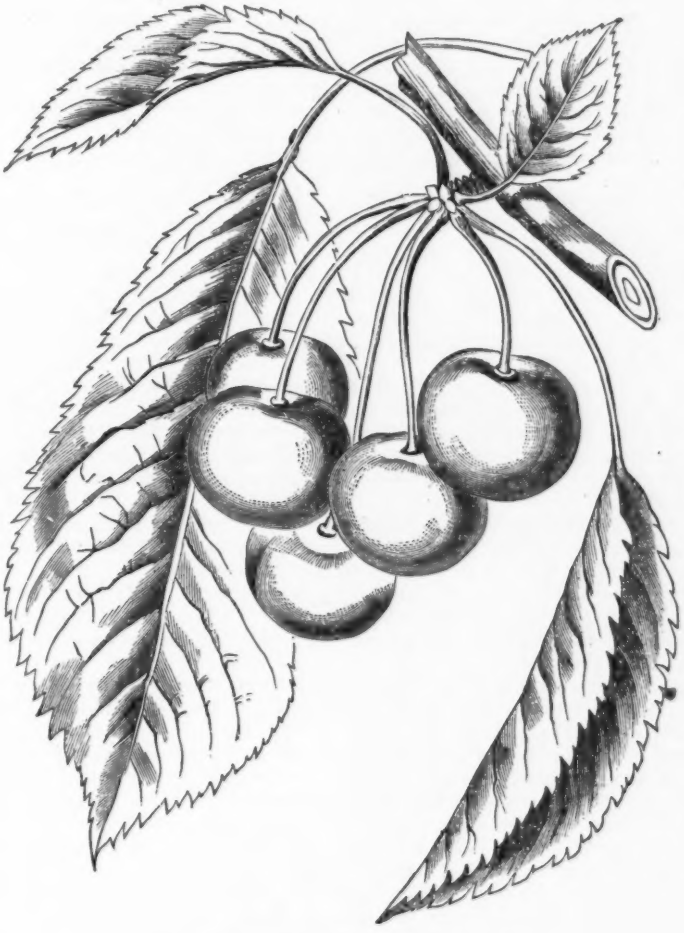
"Fruit, large, roundish, heart shape; color, rich light yellow, mottled or marbled with a beautiful carmine blush, and when grown fully exposed to the sun it becomes a clear red; suture, half round, followed on the opposite side by a dark line; flesh, light pale yellow, half tender, juicy, sweet, with a rich, high flavor; season, middle of June.

"*Tree*, a vigorous, healthy, strong grower, forming a round regular head, very productive; flowers large; foliage abundant."

In an early volume of THE HORTICULTURIST, notice was made of it by Mr. Barry, the Editor, as follows:

"In beauty of appearance, and delicacy and richness of flavor, we have seen none that equals the *Governor Wood*. We have had it in bearing some four or five seasons, and it has been uniformly fine: so it has proved in other places, as far as our knowledge extends. We said, the first year it bore, that it was one of the finest table fruits we ever saw, and to-day we consider it as having no superior. It will not be so popular in the market as the *Black Tartarian*, *Yellow Spanish*, *Napoleon*, or some others, but every amateur will desire to have it in his collection. Flesh is tender, like *Downer's Late*, and others of that class, juicy, sweet and fine flavored. The tree is an erect, handsome regular grower, hardy and very productive, the branches being literally covered with fruit, as though they were tied on; the fruit, we think too, is the least liable to rot, and hangs longest sound on the tree of any variety we know ripening at the same time."

Unlike many other commercial horticulturists, Dr. Kirtland has preferred to introduce his new seedlings to the world by the *free distribution of grafts* into all parts of the country, and we know of no honor more worthy to bear than to have one's name handed down to posterity as the *originator of a successful and popular new variety of fruit.*



Governor Wood Cherry.

The Cultivation of Small Fruits.

BY D. MCLAURY.

Read before the Middlesex Farmers' Club, New Brunswick, N. J.

MR. PRESIDENT: The constantly increasing demand for small fruits, and the idea that it pays better than general farming, has prompted many of the most active and enterprizing farmers to devote much attention to this subject. There is at the present time, in our State and in this county, a large amount of capital invested, and much valuable land devoted to the culture of small fruits. Some have succeeded and others failed.

Too many appear to think it is all profit and no expense; but a large number, after a few years careless experiment, change their minds and think it is all expense and but little profit. It is by earnest perseverance that we succeed. The fruit grower who is successful must be wide awake, and keep himself posted with respect to the kinds of fruit for which there is the greatest demand, the soil best adapted to its culture, and the most economical way to cultivate.

This is a pleasant and delightful business for a person possessed of an inquiring and progressive mind; but he who would plod along in a careless way, without energy enough to use either his hands or his brains, both of which are necessary, had better let fruit growing alone, and devote himself to some business that does not require so much attention.

With respect to soil for strawberries, raspberries or blackberries, I prefer a clover sod on a heavy sandy clay loam, plowed in August or September, previous to planting the fall or spring, or else a corn stubble, which was a heavy clover or timothy sod the year before planting the corn.

Let the ground be as thoroughly prepared as for an extra crop of wheat. Night soil and good stable manure are perhaps the best manures to use. There is little danger of forcing the Wilson strawberry, or the Black Cap raspberry too much. Strawberries should *always* be planted in the spring, but raspberries and blackberries late in the fall or *very early* in the spring. I prefer fall planting, if each hill can be covered with a fork full of litter from the horse stable.

There are only a few varieties of strawberries worth growing for market. I think, at present, the Wilson is decidedly the most profitable strawberry for us to grow for market. It is the best to ship, the best to can, and the best to preserve.

I believe an acre of Wilson's, in good condition, will bring more money than an acre of any other variety not receiving better care than the Wilson. For the last few years the cut-worms and grubs have destroyed a great many plants; therefore I think best to let the plants run over the ground.

I set the plants every twelve or fifteen inches, in rows about three feet apart. The field can then be worked with the cultivator and hoe till plants interfere, late in the season, when the hoe only can be used.

The crop is often increased twenty-five per cent by lightly mulching, in November or early in December, with litter from the horse stable (which is the best), straw, salt hay, corn-stalks, or any material that will partially protect the plants during the winter, but which should be carefully removed from the crowns in spring.

As it generally costs less to cultivate a new field, than to clean out and keep in order an old one, where ground is in a high state of culture, I think it pays best to take extra care of the plants the first summer, picking off all the blossoms, which strengthens the plants and causes them to throw out more and stronger runners, and to form larger stools; and then, the next summer, pick the fruit and turn under the field. Those who raise small berries on poor ground, where weeds and grass are no trouble, do not have to re-plant so often. The demand now is for large berries, and there is no use in bothering with small ones. A quart of large berries, with the hulls on, will bring, in a good market, more money than a quart of small ones with the hulls off, while costing less for picking.

The next in order is the raspberry, which begins to ripen before the strawberries are gone. Some of the best varieties of the red raspberry are the Clarke and Philadelphia, and of the Black Caps, the Davison's Thornless, Doolittle, Miami, Mammoth Cluster and Seneca.

The Clarke is decidedly the best red raspberry, but the Philadelphia the most prolific.

Some claim that the Davison's Thornless ripens earlier than the Doolittle; if so, it will interfere with strawberries, and come into market too soon. It is my experience that it ripens about the same time as the Doolittle, but is no better berry, is a weaker grower and much less prolific. The Miami and Seneca begin to ripen about ten to fourteen days after the Doolittle, and are very strong growers, prolific bearers, and fruit of good quality. The color of the Miami is dark brown. The Seneca is jet black, flavor excellent, but I think the berry not quite so large as the Miami.

I doubt if the Mammoth Cluster, about which so much noise has been made the past year, is much, if any, superior to the Miami. I plant the Red raspberry about four by six feet, and the Black Caps about three or four feet by seven, according to state of culture. The second spring I prefer to set posts and draw a No. 10 wire two and one-half or three feet high over each row, and as soon as the young cane reaches the wire, fasten it and pinch off the top, which forces out the laterals near the ground, which I think a great advantage. In pruning these canes the third spring, I cut back the laterals from one-fourth to one-half the length. If the plants are large and fine when set, quite a crop may be picked the second summer. One of my neighbors, this season, picked about fourteen hundred quarts from an acre, by tying to stalks the canes of the first summer's growth.

Another had several hills two or three years old that averaged two quarts each. If a field averages two or three quarts when in full bearing, the crop is a very good one. There is, perhaps, no crop which pays better for mulching with salt hay, corn stalks or straw, than the Black Caps, but a very good mulching is thorough cultivation with the plough early, and then the cultivator and the harrow till the berries begin to ripen; as part of the raspberry roots lie quite near the surface, the ploughing and cultivating should be very shoal.

The ground should be worked up *to* the Black Cap canes, because each year new roots are sent out above the old ones. In this respect they grow very much like the strawberry. In setting the Black Caps, after the land is furrowed the wide way, and marked the other way with a chain or something else, the one who sets the plant should form in the furrow a little mound, like an inverted saucer, spread the roots over this and cover the crown of the plant only one or two inches deep, and so that the surface of the ground is left even.

Many plants never reach the light, because planted too deep. Set none but good, strong, healthy plants, for the first crop will often pay several times for extra expense.

I think the best blackberry for market is the Wilson's Early, which begins to ripen before late raspberries are gone, and matures before peaches are largely in market.

It is quite a prolific bearer, holds its color well, and is firm enough for shipping. As we have doubts as to the perfection of its blossoms, I think best to plant every fourth or fifth row with Lawton's. If my whole crop of blackberries, this season, had been Wilson's, it would have returned several thousands of dollars more. The Kittatinny is, perhaps, more hardy, and is a very rank, strong grower, but not a very prolific bearer. It ripens about the same time as the Lawton, and does well to market at home on the day picked, but is too soft to ship. There is no doubt but the Lawton is very profitable when not winter-killed, and when peaches are not too plenty.

I plant blackberries four feet apart, in rows eight feet wide. A row of vegetables may be grown between during the first summer.

When the land is rich and under high cultivation, the canes generally need support, which is best given by stretching wire about three or three and one-half feet high, to which the canes can be fastened. The top of the young cane should be pinched off when three or three and one-half feet high, which forces out laterals and gives the shape of a dwarf tree. In the spring the laterals should be pruned off from one-fourth to one-half, which is a work requiring much experience to do properly. If a very vigorous growth of cane is pruned too much, the fruit buds instead of throwing out a single fruit stem to bear one cluster, will often send out a small fruit lateral, the berries of which will ripen from ten to fourteen days after the first crop, and be of little value in the market. I could show you three fields of Lawton's near each other and owned by different men, which showed the difference in pruning. The first was well pruned and ripened well; the second, which was partially pruned, matured part, and the third, which was left nearly as it grew, perfected still less. The dry weather, while the berries were ripening, affected the comparative result.

Those who would be successful in growing blackberries, must be careful not to run to either of the extremes of pruning—too much or none at all. I usually prune in the spring, after the buds begin to swell, because the cane cuts more easily and dead wood can be more plainly seen. In the spring plow from the rows shoal, so as not to hurt the roots, and then, if the fruit growers will, each year, or every other year, apply broadcast to his raspberry and blackberry fields the same amount of fertilizer required to grow a good crop of wheat, he may expect much larger returns than from any grain crop. The ground should then be plowed back to the rows. I prefer a digging fork for working in the row among the canes to any other tool—a prong hoe is liable to go too deep and injure the roots. After the spring ploughing the ground must be kept thoroughly worked with a cultivator and a small harrow, till the fruit begins to ripen. The harrow and cultivator must not run so deep as to injure the roots. This work should be done only by careful men who understand it. We can't expect to grow a large crop of berries and a large crop of weeds at the same time. Those who try usually succeed best with weeds. We ought not to expect more than three or four large crops from a raspberry plantation, but it is difficult to tell how long a field of blackberries will last if they are well cultivated. I have one field, set in 1858, which bore a fine crop this last summer. The canes are more liable to winter-kill in an old field than in a new one.

Thinking it might be interesting to you, I have made an estimate—not by guess, but by net sales—of the average prices, per quart, of my berries for four years. By net sales I mean returns after deducting freight, commission, etc. In 1866, strawberries averaged 19$\frac{1}{2}$ cents per quart, raspberries 24$\frac{1}{5}$ cents, blackberries 21$\frac{1}{2}$ cents; in 1867, strawberries 7$\frac{1}{2}$ cents, raspberries 20 cents, blackberries 9$\frac{1}{5}$ cents; in 1868, strawberries 7$\frac{3}{10}$ cents, raspberries 31 cents, blackberries 32 cents; in 1869, strawberries 13 cents, raspberries 17$\frac{2}{5}$ cents, and blackberries 4$\frac{3}{10}$ cents per quart.

The average for the four years: strawberries 11$\frac{1}{4}$ cents, raspberries 23$\frac{2}{10}$ cents, blackberries 16$\frac{1}{5}$ cents per quart. Omit the year 1868 for raspberries and blackberries, when the crop was light and prices very high, and we have for these three years, raspberries 20$\frac{3}{5}$ cents, and blackberries 8$\frac{1}{2}$ cents per quart. The average expense for growing a field of Wilson strawberries, per acre, is not far from $150 to $200. A good average crop is one hundred bushels per acre. By this average, after deducting all expenses, there will remain about $113 per acre, net. If we pick only one crop, and as two years are required to grow it, the average is about $56, net. If the berries sell well, and there is a call for plants, the net proceeds may be five or ten times the above amount. From seventy-five to one hundred bushels is, I think, a large average for raspberries, and the same for blackberries, unless the canes are badly killed; each costing about $80 per acre for cultivation. According to these estimates, for three or four years past, raspberries average, clear of all expenses, about $300 per acre, and blackberries have netted about $125 per acre. I have here given you the average price, per quart, for which our crops have sold during the last few years, but the average net profits per acre I have intended to make rather low, as many of you are perhaps aware, by the figures, hoping not to make the fruit-grower anticipate more than he may realize.

I think it is wrong to convey the idea to those who are just starting in the business, that they may always expect large crops. In 1866, several acres of my blackberries netted me nearly or quite $400 per acre, but this year will not exceed about one-sixteenth as much, which was caused partly by the large crop of peaches. Therefore the fruit-grower should not be too much elated with a large crop, nor discouraged with a small one, but if he will persevere year after year, he may expect to be well compensated for his labor.

Dr. Brete Currant.

THIS new French variety, imported into this country and cultivated by William S. Carpenter, seems to be quite an addition to our list of varieties already favorably known. Mr. Carpenter has fruited it four years, and it will be seen, from the illustration, that it is a prolific bearer, with the characteristics of a long stem, but short bunch, with very large berries; fruit is stated to be of excellent quality. We hope to see it well tested.

Dr. Brete Currant.

Popular Pears.

The Flemish Beauty.

FOR an acceptable place in every pear list we would name, without hesitation, the Flemish Beauty.

An observer of the markets for the past two or three seasons cannot have overlooked the fact that this variety has been both more abundant in quantity, while the demand has been greater, and price higher than ever. We have seen them occasionally outsell the Bartlett and Duchesse at very satisfactory prices.

Like many other of our finest varieties of fruit, it is imported from Europe, and supposed to have originated in Belgium. Description as follows:

Fruit large size, oblong, obtuse, obovate form, pale yellow *color*, mostly covered with patches and marblings of light russet, and in the sun rich reddish brown; *stem*, one to one and a half inch long; *cavity*, narrow, deep; *calyx*, short, open; basin, round, small; *core*, medium, with oblong capsules; seeds small, oblong, pyriform, pale brown; *flesh*, yellowish white, not very fine grained, juicy, melting, sugary, aromatic; season, last of September.

As a tree it is one of the most luxuriant and hardy, and bears both early and abundantly of its large fair fruit, often when but four to five years of age. It succeeds best on the pear root, for in the majority of instances it has proved a failure on the quince. A few successful instances are on record where it has proved profitable as a Dwarf, but hardly uniform enough to warrant it as a general practice.

Like many other of our most excellent pears, the fruit must be gathered early from the tree, even if not parting readily from the branch, and must be ripened in the house. If permitted to mature on the tree it becomes soft and flavorless, and is apt to decay speedily.

The tree requires a strong rich soil to become permanently thrifty, and will continue, if well cared for, vigorous and healthy for many years.

For the West and North-west it seems admirably adapted, proving as successful as the Bartlett, and even more hardy, and in many sections greatly preferred.

There is no doubt as to its value in the markets, for few varieties exceed it in popular demand.

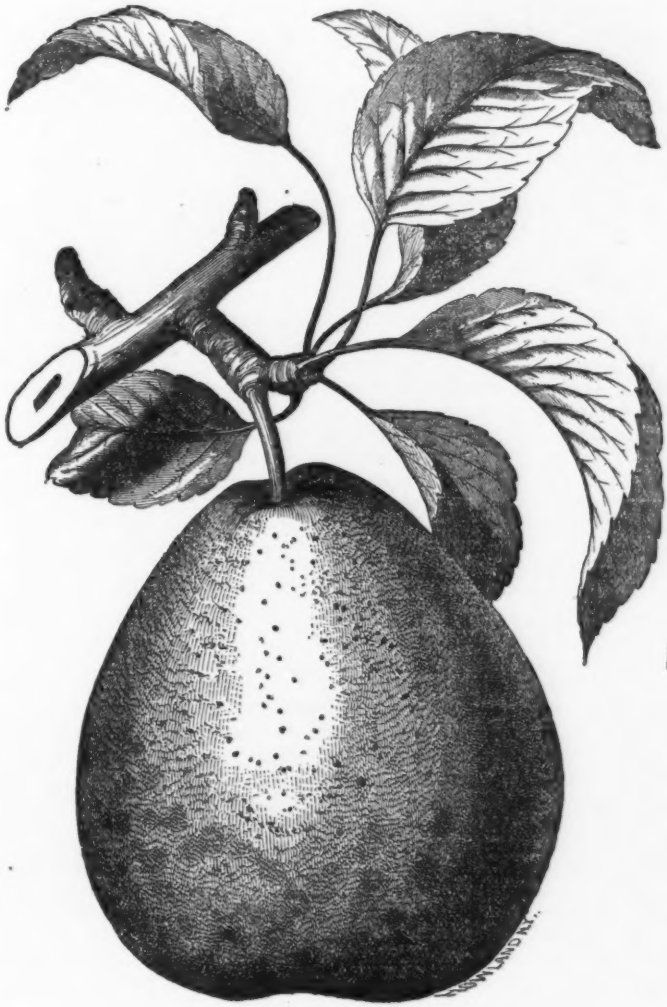
The Best Blackberry to Grow for Market.

WHICH of the varieties of Blackberries would you advise the farmers to plant for the most profitable one in the New York markets?

I would reply by saying that there are so many circumstances to be taken into consideration, that I am at a loss to give any advice on the subject, but will state some of the peculiarities connected with this fruit. The most important item to take in consideration is the peach crop. If this is early and large, the blackberries should all be marketed before that fruit is received in large quantities, as the sale of this berry is seriously injured and eventually destroyed, for the peach is the king fruit in this market, and controls all the others. In the absence of this fruit there is but little danger but all the varieties will be wanted and sold at fair rates. The whortleberry arrives at the same time with the blackberry, but does not injure the sale of them, unless they are very plenty and cheap.

During the past season I received a large quantity of the Wilson from the farm of Mr. Parry, which were very large and sweet, and sold well; the demand increased as the dealers became acquainted with the fruit, and on the arrival of the other varieties, they preferred the Wilson, as being the larger and sweeter; they were also marketed before the other varieties arrived in large quantities.

In regard to the marketing or carrying qualities, I do not hesitate to decide in favor of the Wilson, as I received at the same time, from the same farm, three varieties, which I consider a fair and just test; the Lawton second, and the Kittatinny the poorest. The Dorchester, from another farm, was equal to the Lawton. This I found to be the case in every shipment that I received during the entire season. This may not be the general experience of dealers or growers, yet I give it as one of the features of the trade coming under my observation.



Flemish Beauty Pear.

I presume that all are aware that this season the peach crop was large and prices very low, which accounts for the low price of the blackberry. Another season this may not be the case, and the later varieties may sell better than the early ones. The fact is simply this, that every season develops some new feature in the fruit trade, and no one is able to say in advance what that peculiarity may be.

Old dealers well understand this, and, consequently, hesitate about giving any positive advice to growers, for fear of creating disappointment. C. W. IDELL.

Fruits the Past Season.

BY HENRY T. HARRIS.

HERE, in Central Kentucky, and in other parts of the State, so far as my information extends, fruits, the past season, except the berries, cannot be called a success.

Apples were not near a half crop; peaches but little, if any, more. Pears, especially Dwarfs, gave a better yield than ordinarily. Cherries, of the Morellos, were an utter failure; while the "Hearts" and "Biggereans" were nearly a full crop on matured trees. Grapes, in many "spots," were a success; in others they wholly failed On closely pruned vines the failures were more frequent, while on those partially pruned and those left to run at random, nearly a full crop of choice fruit matured. Why the difference? While I have my own views upon the matter, I leave the discussion of the question to those more intimately acquainted with the habits, characteristics and "*mysteries*" of the vine.

In my own small vineyard of Catawbas, Isabellas, Clintons, Delawares, Madeiras and Dianas, I observed the following facts: The vines all set finely with fruit; by far the heaviest I ever saw. In fact it would have been impossible for the vines to have matured over half the quantity. When they were fully grown, a long rainy spell set in, which continued until about the 4th of July with only brief interval of sunshine. At this time a dry rot appeared—*on all alike*—beginning with a small brown speck, and so continued until over half the grapes dried up and fell from the bunches. The remaining fruit seemed to grow larger, and did become finer, richer and sweeter than we ever knew them, and we gathered as many pounds, or more, than we ever did before. We had no rain at all after the 10th of July until September, when the "Hartfords" began to ripen.

This dry weather undoubtedly added saccharine matter to the grapes, and I predict a superior wine from them. Take it all in all, the Catawba is the grape for Kentucky. My vines are eight years old, and are principally Catawbas, and a sweeter, more aromatic, juicy grape does not have a place in my vineyard, save alone the Delaware; and, all things considered, the Catawba is its superior, and were I planting a vineyard for wine, or a few dozen for table or market purposes, *here*, I should, *unhesitatingly*, plant more largely of them than any other well tried sort, notwithstanding the report of a Western Horticultural Society to the effect that "the Catawba is worthless." I opine that in less than a half dozen years the members of *that* committee will repent in tears, and again plant of this choice old variety quite extensively. I have no vines of any kind for sale, nor do I ever expect to have; and this is written purely as a defense of a grape which has infused more life and hope into vineyard culture in the West than any half score of high-priced and pretentious vines that swell the list of modern nurserymen.

Currants and gooseberries, strawberries, raspberries, blackberries, etc., all did amazingly well the past season, as their crops were gathered before the dry weather came.

Here, in Kentucky, a newer life of fruits and fruit growing has possessed our people. The dissemination of new and rare plants, trees, flowers, etc., together with a wider dissemination of such choice, practical magazines as the HORTICULTURIST, have inspired us all with a fresher love for all that is useful and beautiful; and we hope to learn that your charming Monthly has found its way to many a pleasant "Old Kentucky Home," in 1870, where it never went before; and, if so, we feel assured that everywhere it may go, *that* household will be better, and wiser, and purer for its coming.

STANFORD, KY.

Design for a Summer House.

THE above design for an ornamented summer house, which appeared lately in *Sloan's Architectural Review*, will be found very useful in the grounds of some of our fine suburban residences.

It is to be constructed of wood neatly carved and put together in a workmanlike manner. The floor may be of ornamented tiles, or inlaid with vari-colored woods.

The whole should be stained and varnished, not painted.

The Borer.

EDITOR HORTICULTURIST: Having been an amateur culturist of fruits for a dozen years, and having long since learned in the school of experience and observation that "eternal vigilance" was the price of success therein, I herewith give you my observation relative to the peach borer. It will not be necessary for me to tell your intelligent readers that this is a destructive worm which infests fruit trees—especially the peach—under the bark, just at the ground, and always leaves visible evidence of his noxious presence by the exudation of a gum-like substance, something like jelly, at the ground around the bark.

No peach tree of any age is free from their ravages. Even little one year old seedlings, in the nursery row, are often infested with them. We are often told that the only remedy for them is cutting them out, or by tracing them up with a sharp wire. We admit the utility of this remedy, which is positive and entirely satisfactory, although a little troublesome, because it *must* be attended to promptly twice a year, in June and September, in order to keep them exterminated. But I have another remedy, less troublesome, if not quite so efficacious at all times and in every instance. However, if our remedy is thoroughly applied once every two or three years, we have found by experience that fewer trees, on an average, are either temporarily or permanently injured by this pest, than where the other plan is followed; and we have also found that the trees receive a positive benefit from the application, aside from the fact of their being secured against the injury which the borer would inflict.

It consists simply in cupping out the dirt several inches deep immediately around the

tree, and then applying ashes and lime—either or both; better to use *both*—around the tree, in the cup, patting and pressing it down *quite firmly*, and then scattering a half gallon or so around the tree over this, loosely. It is better to do this at time of planting; but if it has been neglected, see that the borer is cut out, and then apply the ashes and lime. I have many trees treated in this way, from which I have not found it necessary to cut out a dozen borers in five years, and the trees are thrifty, healthy and free from this troublesome grub. I do not give this as an original remedy, but as the result of my individual experiments. Some may suggest that strong ashes and lime might burn the bark. Such has not been the results of my observation; and I should not hesitate to apply it freely in any instance. If, however, any one is doubtful about it, let him first apply some tough, hard *clay* around the tree, then the other.

I notice, in a portion of my own orchard, where I put the sub-soil of clay around the trees, on top, that not a single borer had entered the bark. I account for this from the fact that the clay formed too hard a surface for the pests' comfort, and before they were large and strong enough, from the egg of the fly, to penetrate this rude covering, they either starved to death or were destroyed by the sun and rains. How this may really be, however, I do not profess to say positively, but have as much right to give a "guess" about it as any other "Yankee."

WOODMAN.

STANFORD, KY.

Protecting Trees Against Mice.

ON reading the article, in the December number, page 375, to protect trees against mice with tarred paper, it brought to mind another method, which I have tried, which serves two purposes. Put a mound of earth, as large as a bushel basket, well packed around the tree on the approach of winter; the mice will not interfere with it, and the earth keeps the tender bark at the roots healthy and vigorous, and when winter passes off take the earth away; and to keep the rabbits away, wind the tree with a small band of straw from the ground to the limbs. This also serves two purposes—it prevents rabbits from girdling the tree, and holds the moisture and protects the tree from the hot sun, and gives free circulation to the sap. The bands may remain on the trees till they fall off. As you worthily observe, high, rolling land is the best for orchards. Clay land should be ploughed deeply the fall previous to planting the orchard, and in the spring manured with coarse straw, decayed wood and leaves manure, to keep the land from baking too hard. Light sandy land should be prepared the year before planting the orchard, and manured with muck. Rich loam soils require less manure, as the trees grow too much to wood. During a few of the first years the land may be cultivated with light crops, to shade the soil from the sun. I have planted small corn and potatoes, and grown barley and sometimes wheat; and after the trees begin to bear, stop cropping and use the harrow, and mulch the trees with straw manure. This method of treatment has always proved successful with me in Massachusetts, New York and Michigan. The spring is the best time to take up and plant apple trees. Great care should be used both in taking up and planting trees. To plant trees in a deep hole, on land not cultivated, is death to the tree if it is filled with manure. The tree should be set one or two inches deeper than it grew in the nursery; planted in land prepared in advance by deep tillage, will do well, as in a dry time the roots will find moisture and have free play to extend themselves, but on shallow ploughed land the roots will dry up, or in a wet time drown, and the tree stunted.

Trees should not be trimmed or pruned too much. Our best grafted varieties do not run to limbs so much as the natural trees, and bear fruit generally every other year; hence, by letting the limbs grow out and above four feet from the ground, and rubbing off the sprouts in the spring with the hand, they will not sprout again in the same place; and cut the cross limbs. By this mode the tree will form a round, low top, *without shortening*.

PLYMOUTH, MICH. J. S. SHEARER.

Horticultural Notes.

Double Diadem Pink.

This variety, which we figured last year under the name of *Dianthus Heddewigii Diadematus flore pleno*, Mr. Vick says is a "*marvel of beauty*," and "altogether the most desirable acquisition of the year." "Only about one-half the plants produced from seeds are true, or at least give flowers equal to the description, but these are so good that no one will mourn over those that fail."

Bugmaster General.

This is the euphonious title jocularly bestowed by Western horticulturists (irreverent) on the State Horticulturist of Illinois.

The Fruit Growers' Club, New York,

Has sunk into oblivion, like many other associations mismanaged. The refusal of its Treasurer to pay the premiums awarded by the official committee, and which were endorsed by the club, and payment authorized from funds in hand, sufficient for the purpose, no doubt hastened its demise. "Good riddance to bad rubbish."

Vick's Catalogue for 1870

Is highly embellished with a new *title page*, and hundreds of engravings within, chief among which is a portrait of "*the good looking man*" who sets half the women in the U. S. crazy on flowers. A flower-garden without Vick's guide as a companion is hard to find.

Gen. Grant Tomato.

It will be remembered that this was sent out as a new variety last spring, and few knew of it, or seemed to interest themselves in it. It has, however, done very well, as will be seen by the statement of H. A. Terry, in *The Iowa Homestead*:

"This variety of tomato was, I believe, first sent out last spring, and having grown it the past season, I will say that I consider it one of the finest sorts in cultivation. It is medium early; fruit of large size and very smooth and fair; flesh solid, with but few seeds; color dark crimson; very productive and of most excellent flavor—one of the very best for marketing or home use. I had, the past season, some twenty other varieties in cultivation, but none that would compare with this."

Trophy Tomato.

Geo. E. Waring, Jr., has another remarkable tomato, so unusual in its characteristics, that it has been named The Trophy. We shall probably hear more from it the coming season, as it is not yet widely disseminated.

Immense Nursery.

The Evergreen Nursery of Robert Douglas & Son, Waukegan, Ill., contains 5,000,000 European Larch, the best timber tree known; also as many Norway Spruce and other varieties, making a total of between 15,000,000 and 20,000,000 of trees.

Mexican Ever-bearing Strawberry.

The evidence is rapidly accumulating against this variety, and the original eminent supporters are feeling very doubtful and cautious. It appears to be of very little value, whether it is new or not

and the majority of cultivators have had little success with it. Those horticulturists who called it *The Old Red Alpine*, WITH RUNNERS, are not far out of the way.

Delaying Mulching.

SOME cultivators delay applying their mulch until too late; the winter comes upon them unprepared and then there are regrets.

If there should be a good fall of snow, covering the entire field and lasting until spring, this is a good substitute and will be of no harm; but where snow falls, then thaws, leaving the ground bare, then freezes and thaws again, and so continues during the entire winter, the cultivator's strawberry bed or trees *must suffer*, there cannot be any help for it. The plants are thrown up out of the ground, or out of a good sound bed, the roots are affected and trees are seriously injured.

Mulching should always be applied as soon as the ground first freezes. *Do not delay a day longer. But it is better late than never.* If omitted during the winter, by negligence, it should be applied as early in the spring as is safe. For its presence around the plants, keeping an abundance of moisture in the earth, tends to produce more vigorous growth and more abundant fruit, which also will be of larger size and better quality.

If there are any strawberry beds now unmulched, we recommend all, as soon as the snow disappears, to strew some along the rows between the plants, and satisfy themselves of the soundness and excellence of our mode of practice.

Downing's Fruit and Fruit Trees of America.

SOME idea can be gained of the progress of American Horticulture, when we make a comparison of the original volume issued by A. J. Downing, in 1845, and the new volume issued, in 1869, by his brother Charles Downing.

The former, considered even voluminous in its day, contained 600 pages, with lists of 200 varieties of apples, 230 of pears, cherries 77, peaches 79, plums 97, apricots 16, currants 10, nectarines 18, raspberries 14, strawberries 36, foreign grapes 35, native grapes 12, gooseberries none, blackberries 2.

The new eddition fills *eleven hundred pages*, with an index alone of about a *hundred*, containing lists.

Apples, varieties described	1,840	Nectarines, varieties described	31
Pears, " "	1,000	Raspberries, " "	87
Cherries, " "	192	Strawberries, " "	252
Peaches, " "	220	Foreign grapes, " "	42
Plums, " "	287	Native grapes, " "	145
Apricots, " "	45	Gooseberries, " "	6
Currants, " "	27	Blackberries, " "	52

Even since the publication of the volume, a dozen or more new fruits have come to our notice, and scarcely a month passes but a regiment of names appear of new varieties. Like Mrs. Partington, of old, we hold up our hands in amazement, and wonder when the end will be.

Proud as we may well be of the developement of the fruit interests of our country, it is a thing to be regretted that so large a proportion are worthless, or so capricious in cultivation in the different States as to make them practically useless. How *few varieties* of each class are really successful and generally deserving extended cultivation.

An encyclopædia like this is valuable as a record, as well as a guide to the practical horticulturist.

The Tribune.

THE *Tribune* has added to its numerous excellent departments, a new one. "*Horticulture and Market Gardening*," in which our friend P. T. Quinn is to appear regularly. We are pleased to see horticulture becoming thus popularized by the addition of competent practical horticulturists to the editorial staff of our largest agricultural and rural journals, and this new branch in *The Tribune* will "*bring forth good fruit.*"

Pear Culture for the South.

The editor of *The Southern Horticulturist*, in an estimate of the profits of pear culture in the Southern States, gives the following figures for a dwarf pear orchard of one acre.

Dr.		Cr.	
To land, trees, interest, etc., at end of fourth year,	$560	By 100 bushels pears, 5th and 6th year	$500
Interest on same, six years, at 10 per cent	336	" 200 " " 7th and 8th "	1,000
Cultivating, manuring, etc., six years	304	" 400 " " 9th and 10th "	2,000
	$1,200		$2,500

This is a calculation for *ten years*.

Now, we would not like to disturb our worthy friend's figures, but we candidly believe not *one orchard in a hundred* ever do yield such profits.

We have some friends in Western New York, who have been growing dwarf pears for eight years, and they are sorry they ever planted them. During this, the *eighth* year, from *five acres* of *Beurré D'Anjou*, only twenty barrels of pears were gathered, which realized $20 per barrel, or $400. This does not look like $1,000.

We have seen pear orchards of the Duchesse d'Angoulême, south of Philadelphia, where we never could count either a bushel or a half bushel to an average of trees over an acre. We believe pear culture to be *profitable*, some years more than others, and sometimes returning prodigious revenue, but we have never found any one yet either able or willing to give a *good reliable estimate*.

However, the editor, Dr. Swazey, gives capital good advice concerning the *varieties* most successful in the South, and these we commend to general attention.

"The first good market pear of the season is the Doyenne d'Été, ripening, it is true, a few days after the Madeleine, and is perhaps a trifle smaller, but the tree is a healthier and a handsomer grower, and bears a good crop at an earlier age. The fruit also is more prepossessing in appearance, and of better quality, and what is of equal importance, keeps in good condition longer after being gathered. With market men this latter item is a matter of prime consideration, for they have no especial fancy for fruits that are liable to die on their hands before selling.

"The *Doyenne d'Été* can be gathered in this climate (Miss.) by the 10th of June, and will bring from eight to ten dollars per box, of three pecks, in the New Orleans market, perhaps more in Northern ones. Should be planted as a standard only, as the fruit is finer than on the quince.

"*Second* in season, but among the first in profit, comes the old *English Jargonelle*, a splendid market variety that has almost been lost sight of in the rage for something *new* It should not be planted in light soil, nor in extreme southern latitudes, as its habit of early blossoming renders the crop liable to be killed by late spring frosts. The tree is a strong, healthy grower, and bears early and abundantly. Ripens about the 20th of June, and should be gathered early to prevent rotting at the core—its only fault. Better on pear stock than on quince. Makes a large tree and should be planted from twenty to twenty-five feet apart.

"The *Bloodgood* and *Early Catherine*, ripening about the same time, are also among the most reliable and profitable varieties. In fact for an early variety, to come in before the Julienne, we should take the Early Catherine in preference to any other variety that we know. Both this and the Bloodgood should be planted as standards only.

"After these comes the Julienne, ripening from the 20th of June to the middle of July. An early and immense bearer of the handsomest and best pears of its season, by long odds. Sells readily at $8 per bushel, however full the market may be of early apples and peaches.

"Few varieties are more healthy, either in tree or fruit, and few will bear gathering so early and keep so well. It is also about the only early variety that can be eaten in the highest perfection right from the tree, although it will ripen up finely if picked when two-thirds grown. Best as a "*dwarf*," but excellent as a "standard."

"For the *greatest profit* we must close our list with the Bartlett and Duchesse d'Angoulême, either on pear or quince, the former being in good shipping condition from July 10th to August 10th, and the latter following it all through August and first half of September.

"The Doyenne Boussoch is a splendid market variety, ripening about with the Bartlett, its only drawback. For October and November we know of nothing superior to Lawrence, St. Germain and Winter Nelis—all first rate."

Bignonia Radicans.

How rarely one sees this fine old climbing plant now-a-days! There is a plant of it here, growing against the wall in the kitchen garden, at the end of a range of vineries. It is an old plant, and has been in its place for a number of years. The only attention that is given to it is to prune it to an eye, like a vine, every autumn after the fall of the leaves. It is perfectly hardy, having stood the severe frost of December, 1860, without protection, when hundreds of common Hollies were killed to the ground.

This plant is a beautiful object every year during the months of August and September, when it is covered with large bunches of its orange-colored, trumpet-shaped flowers.

The *Bignonia Radicans* is a free and rapid grower, and when encouraged will spread to a great distance and rise to a great height in a few years.

It is freely propagated by cutting or layers. Old plants also throw up suckers from the roots, which may be taken off and planted at once where they are wanted. When established, the only attention they require is, in the autumn or winter, to cut away all the small, weak shoots of the former year, and shorten the strong, leading ones to two or three feet. When the plant has filled the space required, all that is then necessary is, after the fall of the leaves to spur-prune like a vine. It is surprising that this fine old plant, which will stand our severest winters in the open air against

a wall without the slightest injury, should now be so little grown. No garden should be without it. —*M. Saul, in Florist and Pomologist.*

Pruning Grape Vines.

Mr. Quinn, in *The Tribune*, gives a few plain directions for pruning, which should be taken advantage of *at once:*

"In case the young vine was planted last October and November, then the single shoot should be cut back, leaving only three eyes. The first year it is better, under ordinary circumstances, to allow only one shoot to grow, so as to ensure a strong vigorous growth of wood, that will be well ripened at the end of the season. This single shoot should be cut back to four eyes, and the second year only allow two shoots to grow. These should be fastened up during the growing season to posts, wires, and the laterals pinched off two or three times during the summer.

"The system adopted for training the vines after the second year's growth, will, to some extent, govern the use of the pruning knife. If the horizontal or arm system is decided upon, then the two shoots are cut off, leaving two or three feet of wood in each. These two arms are then fastened permanently to a slat or wire placed in a horizontal position, about eighteen inches from the surface. Each eye on these arms will push forth a shoot in the spring of the third year, and these upright shoots will produce the first crop of fruit. The quantity of fruit should be regulated according to the strength of the vines. At each annual pruning these upright shoots are cut back to two or three eyes, and never more than one shoot permitted to grow from each of those spurs. The arms can be increased in length each year until the spaces between the wires and the rows are filled up.

"With such rapid growing varieties as the Concord and the Hartford Prolific, they require more room, as they grow older, than is usually allowed to them. Close planting may answer while the vines are young, but when they are a dozen years old, 6x6 or 8x8, will be found too close for strong vines of vigorous habits."

Vegetable Manure for Fruit Trees.

It is remarkable how much vegetable matter will add to the growth of a tree. This is especially the case with the grape vine. A mere covering of leaves in the fall will have an influence that is almost astonishing. Such is our experience. There is, however, a difference in soil, we find, so as to cause a variation. A stiff clay soil will not show the effect so readily, and it seems to fail in showing a full effect, perhaps because it keeps the strength on the top, as clay is an absorber and retainer of fertility. But in a sandy or leachy soil—any soil that will let the strength down—we think nothing better for fruit trees of all kinds can be used than the simple application, in the fall, of vegetable matter in the form of leaves, cut-weeds or grass, grown the same year.

It will afford a protection during the winter. The fall and spring rains, and the heat at the opening of summer, will prepare it for food, and continue to feed the roots the most of the season.

Now, if a mulch is applied when the heat commences—of the same material, vegetable matter—with some deliquescent covering like ashes, plaster or lime, there will, unless the soil is quite deficient in fertilizing matter, be a good growth—such a growth as is wanted—not extravagant, nor the opposite. In a quite ordinary soil it will be sufficient. It will grow fruit; it will continue to grow it healthfully, remuneratively, not in premium crops, but in a permanent abundance; and that is what is wanted.

Let us apply our light manure in the fall, and use it also as a protection from the heat, as well as food for the trees. Where the soil is a strong clay, it is best to remove some of it, and get down to the roots; then replace the ground. A few broken bones, added while the ground is open, will sometimes be of benefit, and be a lasting one. And we think it will do no hurt in any case.

Do not use for one year alone; try for several. In ground disposed to let down the strength, there will be an effect almost at once. In such case the two applications are just the thing—one in the fall and one in the spring, or the commencement of the heat, thus keeping up a constant replenishment, just what the tree wants. If the roots of the tree are near the surface, nothing can be finer than this application. The forest has been teaching this lesson from time immemorial.—*F. G., in Rural New Yorker.*

Apples for Wisconsin.

L. L. FAIRCHILD, of Rolling Prairie, recommends the Red Astrachan:

"This apple makes a splendid appearance; is large, crimson in color, covered with bloom, juicy, acid; it is productive, and last, but not least, it seems entirely hardy in this State. It ripens here in July; is one of the first ready for market. It is juicy and rich; good for eating and cooking. It has our vote as standing first on the list of summer apples.

"The tree is a stout grower, though not as rapid as some. My trees were transplanted when three years old from the graft, and commenced bearing the third year after setting, or six years from root-graft."

Charles Waters, of Springfield, writes to the *Western Farmer*, in behalf of the Fameuse:

"In answering L. L. Fairchild's question, 'What variety would I choose if restricted to one apple,' I would say the Fameuse. Although there are hardier kinds, yet get a Fameuse tree started with a suitable top, and it is all right. The question is how to get it started right; choose a tree with a straight stem.

"I think all nurserymen ought to cut the Fameuse down to the ground at one or two years' growth; and when grown one year, they will be four to six feet high, and then there will be no difficulty in forming the top with a succession of limbs, by rubbing off part of the buds as they start growing. They should be sold from the nursery in the fall after cutting off, and buried over winter.

"There is a variety here under the name of 'Hoss' that is the hardiest apple in this county. They were first introduced here by a tree-peddler, and I have heard of but one of them dying, and it was killed in Viroqua by the great tornado. The oldest trees bear fifteen bushels of fruit per tree, at about fifteen years of age. The quality of fruit is only second-rate. It is a fall and winter variety. There is more call for 'Hoss' trees than any other apple. They are good to dry; a splendid cooking-apple, and it is one of the most constant bearers I am acquainted with; and, in absence of Fameuse, my little one says, 'Give me Hoss apples.' And I can worry down a few of them myself after dinner."

John M. McLees, of Harmony, writes for four varieties, as the best to plant.

"I would take for four kinds, the Golden Russet, Perry Russet, the Fameuse, and the 'Horse' or 'Hause' apple. The best is the Golden Russet, as it is a good bearer, a strong and healthy tree, and can stand the winter as well as the burr oak. It is better than the Fameuse, on account of having naturally better growth. The Fameuse is given to rotting in the crotches more than any of the other three varieties. The 'Horse' apple is probably the second hardiest tree, and is certainly the earliest and best bearer of any of them. The red Romanite is a great bearer, but the small twigs are tender; the body stands well; after once fairly started it bears every year. This is my experience."

Large Sales.

MESSRS. PURDY & JOHNSTON, of Palmyra, N. Y., and South Bend, Ind., shipped to market the last season, from both places, eighteen hundred bushels of strawberries, and eight hundred bushels of blackberries. At the same time they sold $16,000 worth of plants. Probably no fruit-farm or nursery in the country can equal or excel these figures.

Ornamental Shrubs.

ROBERT MORRIS COPELAND, in a very valuable article in the *Country Gentleman*, makes note of the valuable effect of *combinations* rather than single specimens.

A single clethra is beautiful as a specimen, or in a group where its white blossoms or rich dark leaves may contrast with plants unlike it; and yet a mass of clethra in August, filling a bend of a river, fringing a path or a copse, is one of the finest effects which shrubbery can be made to give. Similar results follow the use of the rosa Carolina, a large, strong growing swamp rose with very fine dark foliage; when planted in a mass, its profusion of pink blossoms and delicious fragrance are delightful, and as a single plant it challenges the admiration of every one.

There is a yet more common but little appreciated shrub, the spirea tormentosa. This shrub seems more valuable for its rusty green leaves, which contrast well with other foliage, than for its blossoms; its flowers form a dense pink spike, which turns brown as the seed ripens. Planted in a mass or group of fifty or more, when in blossom the rosy purple effect of color is very fine. For specimens, shrubs must have beauty of form, leaf, and flower to give them high rank; and if finely-colored berries can be added to good form, foliage, and flowers, we get all that can be hoped for. Besides the special merits of individuals, shrubbery, when massed, should offer a variety of beauty at different seasons of the year, to have lasting interest. If the whole of any plantation comes into blossom at once, say in June or July, and then the flowers disappear and are not replaced by berries or by any rising mass of herbaceous bloom, the interest dies away, and we look at the bushes with no more satisfaction than a row of cur-

rants or raspberries would give when their fruit had been gathered. It should be the aim of every planter, therefore, to gather into his group such a combination as will be sure to present something new in form, color, or fruit through the year, and rarely to be contented with any single effect, however grand.

A very valuable list of ornamental shrubs is appended, which we consider so valuable for reference that we copy it here entire. The figures 1 2, 3 represent different orders of excellence, 1 being highest, etc.:

EVERGREEN SHRUBS.

1. Andromeda floribunda—probably Cassandra calyculata—altered in English nurseries, white, April or May—6 inches to 1 foot high.
2. Andromeda catæsbii, white, May—2 feet.
3. Azalea, (introduced,) pink, May—2 feet.
2. Arctostaphylos uva ursi, white and pink, May—2 inches.
1. Box, golden and silver, creeper, striped leaves, (introduced,) 3 to 10 feet.
2. Broom, (introduced,) yellow blossom, May and June—3 to 10 feet.
2. Epigea repens, creeper, pink, April—2 inches.
1. Holly, American, berries, winter—low trees.
1. Holly, English, with variegated varieties—trees.
2. Mitchella, creeper, white, (not reliable,) June—1 inch.
1. Lonicera Japan, Aurea reticulata, vine, pink and white—June to August.
2. Juniperus communis, spreading, low shrub—3 feet.
Juniperus, several other varieties, foreign.
1. Kalmia latifolia, pink, June—2 to 7 feet.
2. Kalmia glauca, light pink, June—2 to 3 feet.
2. Kalmia angustifolia, red, May to July—2 feet.
3. Linnæa borealis, creeper, pink, June.
3. Ledum latifolium, pink, June—2 to 5 feet.
1. Mahonia aquifolium and golden-striped, May—3 feet.
1. Rhododendron catawbiense and maximum, white, pink, and rose colored, June to July—3 to 10 feet.
Thuja, 10 varieties, native and foreign—1 to 20 feet.
2. Taxus baccata and variegata, (introduced)—3 feet to trees.
1. Taxus canadensis, creeper, red berried, winter—8 inches.
1. Thujopsis, 2 varieties, (introduced) 3 feet to trees.
1. Retinospora, 2 varieties, (introduced)—3 feet to trees.

DECIDUOUS SHRUBS.

2. Amorpha fruticosa, violet, June—5 feet.
2. Alder, swamp, orange, April—5 to 20 feet.
2. Azalea nudiflora, pink, April and May—2 to 6 feet.
1. Calendulacea, orange and flame color, May—3 to 10 feet.
2. Arborescens, rose-colored, June—3 to 10 feet.
1. Viscosa, white, July—4 to 10 feet.
2. Almond, double flowering, (introduced,) pink, May—2 to 4 feet.
1. Aralia spinosa, white, July and August—3 to 15 feet.
1. Althea, many colors, August—3 to 12 feet.
1. Barberry, common, yellow, red berries, June—6 feet.
Barberry, red-leaved, (introduced,) June—5 feet.
Barberry, yellow-berried, (introduced,) June—5 feet.
2. Blueberry, high bush, white, May—5 feet.
3. Blueberry, low bush, white, May—1 foot.
1. Bayberry, semi-evergreen, fine shrub, blue berries—2 to 4 feet.
2. Button bush, wet places, white, July and August—3 to 6 feet.
3. Bladder nut, flowers white, May—3 to 10 feet.
2. Caragana, (introduced,) yellow, June and July—3 to 15 feet.
1. Cornus, 6 varieties, all conspicuous and fine—May to July—4 to 20 feet.
3. Choke berry, white, May—4 feet.
1. Clethra alnifolia, white, August—3 to 7 feet.
2. Ceanothus, white, July—3 feet.
2. Colutea, orange, (introduced,) June to August—3 to 5 feet
1. Cratægus, white and pink, 8 varieties, May and June—6 to 15 feet.
Cratægus, hawthorn, several varieties, (introduced,) May and June—6 to 15 feet.
3. Cotoneaster, white and pink, (introduced,) May and June—2 to 5 feet.
2. Currants, Missouri, yellow, May—6 feet.
2. do. red flowered, May and June—3 feet.
1. Calycanthus, purple, June and July—2 to 5 feet.
2. Cinquefoil, shrubby, yellow, July—3 feet.
1. Deutzia, white, 4 varieties, (introduced,) May and June—2 to 6 feet.
2. Daphne mezereon, pink, April—1 to 2 feet.
3. Diervilla trifida, yellow and orange, May to July—3 feet.
2. Euonymus, red and white berries, September to January—5 to 12 feet.
1. Forsythia viridissima, yellow, May—3 to 6 feet.
2. Hypericum, shrubby, yellow, July—3 feet.
3. Hazel, English, variegated, nuts, October—5 feet.
3. do. American, nuts, October—5 feet.
3. do. Witch, yellow, May to March—5 feet.
3. Horse Chestnut, dwarf, white and pink, June—6 feet.
3. Hydrangea, ¾ hardy, variegated, July to October—2 feet.
2. Lilac, six varieties, white, red, and pink, May and June—5 to 20 feet.
3. Leucothœ paniculata, white, June and July—3 feet.
1. Magnolia soulangeana and conspicua, white and pink, April and May—5 feet.
1. Privet, American, English, white, June—3 to 6 feet.
2. do. yellow berried and variegated, June—3 to 6 feet.
1. Prinos verticilatus, scarlet berries, September to February—5 feet.
1. Pyrus Japonica, pink, white, and red, April and May—3 to 6 feet.
1. Roses, 12 varieties, many colors, throughout the summer—1 to 6 feet.
2. Rhodora, purple, April and May—2 feet.
2. Rubus odoratus, purple, July to September—4 feet.
3. Rhamnus catharticus, black berries, September to January—6 to 10 feet.
1. Spireas, 10 varieties, all colors, June to September—3 to 6 feet.
1. Sambucus, Elders, 3 varieties, red and black berries, June to October—6 to 10 feet.
3. Spice bush, yellow, April—10 feet.
1. Shad, white, May—12 feet.
1. Smoke or Purple Fringe-Tree, purple, June to September—3 to 12 feet.
2. Snow-Ball, white, June—8 feet.
3. Southern Wood, good for foliage, summer—4 feet.
3. Shepherdia, red berries, August to December—10 feet.
2. Syringa, 3 varieties, white, June—8 feet.
2. Tamarisk indica, purple, July—3 to 6 feet.
1. Tartarian honeysuckle, red and yellow berried, pink and white blossoms, June to October—8 feet.
1. Viburnum, 7 varieties, white, May to July—3 to 10 feet.
1. Wigelea rosea, white and pink, June—4 feet.
2. Willows, 5 varieties, good for foliage, summer—4 to 12 feet.

Irish Fences or Hedges.

IN Ireland, where land is becoming more and more valuable yearly, attention is being directed to the great space occupied by their system of fencing or hedging. Nearly every stranger at first sight is struck with their peculiar character, and a farmer, on first beholding them, expressed himself as follows:

"Such large fences are hardly necessary for agriculture. Every person who had the pleasure of hunting near Dublin looked with horror at the gigantic fences. There is a wide dyke separating the field from the bank which is large enough to ingulf both man and horse. There are gentlemen here who tremble in the saddle when approaching some of these large fences, covered by men who are ready to drag out the unfortunate man who falls on the other side, and they go by the name of 'wreckers.' As a farmer, I can not see the necessity for such large fences, or why so much land should be taken up with them. I made some inquiry from Mr.

Baldwin regarding the excellent institution known as the Model Farm, near Glasgow, which I frequently visit. I was told the amount of land which a fence occupies on that farm, which is one hundred and eight acres in extent. The Education Commissioners leveled thirteen acres of fences, and it was found that two acres of fences would be necessary to divide the fields, and they thus gained six per cent of land on their small area. On a neighboring farm of eighty-one acres in extent seven acres were occupied by fences, and eight per cent instead of two lost to farming."

The Beet as an Ornamental Plant.

DURING the last fall, we observed in the rooms of *The Agriculturist*, some ornamental beets exhibited by William Chorlton, of Staten Island. We were at once impressed with the idea that as an ornamental plant for lawn or flower-garden borders, it might be made of great beauty and desirability. The leaves were beautifully tinted with spots of purple, and delicate crimson veins ran the entire length of the leaf; while in size they could favorably compare with any of our low-growing shrubs.

As an aid to ribbon gardening, they would be very valuable and ornamental, and certainly nothing could be cheaper.

Ornamental Hedges.

A CONTRIBUTOR to the *Rural World* discusses the above subject in a very interesting manner, and indorses the Japan quince very highly. We appreciate the Japan quince quite as highly as he; but we notice in the majority of plantations it becomes sadly neglected, is not well pruned, and becomes very ragged and irregular at the bottom, thus spoiling the uniformity and symmetry which should always be the beauty of a successful hedge.

"There are many kinds of shrubs that are capable of being converted into an ornamental hedge—in fact, almost any kind can be so converted, with proper care and attention in planting, pruning, etc. But, if there is one shrub that is better adapted for that purpose than all others, in our climate, in my opinion, it is the old and well-known favorite, Japan quince, more commonly called fire-bush.

"In Mr. Shaw's botanical gardens are numerous examples of ornamental hedges, made of the different hardy shrubs. Among them are several kinds of the *spirea*, the wigelia, mock-orange, privet, or prim, (the favorite garden hedge plant in Europe,) and several others; and from most of them can be made very pretty hedges. But the great defect with all these is, that they can not be relied upon to remain perfect and intact through a series of years; small and large branches, even whole plants, die out here and there, after the hedge is grown, making great and unsightly gaps, which can never be filled up even and perfect so as to look like the original, even with the utmost care and pains. The privet appears to suffer the worst of any in this respect, dying out in dozens and hundreds, after being well established, and for some unaccountable reason. The *spirea reevesii* is almost as bad, while the *S. prunifolia* is one among the best of the above named, and is capable of being trimmed and made a really pretty hedge.

"The numerous advantages the Japan quince can lay claim to, as an ornamental hedge plant, may be enumerated in part as follows: Extreme hardiness—a single branch never gets winter-killed here; infinitely more hardy than our common domestic quinces, and all that can be asked or desired in this respect. It is a moderately rapid grower, fast enough for a garden hedge, and at least as fast as the famous English hawthorn, which it also considerably resembles in habit. The fire-bush is essentially a shrub, and not a tree, and its habit is just right for a good hedge plant, namely, dense and compact, even without much trimming; then it is somewhat thorny and its branches quite stiff; when old, also, strong and tough; not brittle and easily broken. There is no plant that will bear clipping and shearing better than it will; but I am satisfied that when once started into proper hedge form, there are few plants that will require less attention, in the way of clipping, to keep it in good form, than it will; it is so susceptible of management that any form that a hedge can be made to assume can be made of this plant. As regards beauty, while it is true that an untrimmed, neglected bush has a rather ragged, rough appearance, a neatly-trimmed bush or hedge of it has exactly the reverse; and during spring and summer, when in foliage, few shrubs are prettier. The foliage is dark, glossy, and beautiful, while the leaves on the points of the young shoots are of a reddish purple, affording a pretty contrast to the dark green of the older foliage; and last, but not least, its large and brilliant crimson blossoms in earliest spring—that which gives it its name and its popularity as an ornamental shrub—are not surpassed in beauty by any shrub we possess; and it is difficult to sum up more attractions or more good qualities for a hedge plant, in any one shrub, than in this. Finally, however, it bears transplanting well; is easily propagated—any one having a stock of old plants can extend them rapidly by dividing it up, tearing off the suckers that spring up around its main stem, and also by cuttings of the root; but by shoot cuttings, or layers, or from seed, it is very slow of propagation, and a person must

have some rather large, old stools, to work upon to increase it very fast. Speaking of suckers, they may be regarded as an objection by some, but it does not spread all over the ground and throw up suckers, like the ailanthus or the silver poplar; but what suckers it has come up immediately around the stem and inside of the spread of the branches, and if not wanted or are any way objectionable, can easily be removed."

The Wilson Strawberry.

We doubt whether, among average cultivators, the Wilson Strawberry is really a profitable variety. It is true, there is no strawberry that will succeed as well on varying soils as this, nor any that can be depended upon for a certain crop, year after year. But when we see how much labor is necessary to set out an acre of strawberries, to manure it, to keep it in prime order, to provide baskets for marketing, and then to find that there are only two crops of the Wilson worth having, the first light, the second the best, and the third poorest of all, it must be admitted that strawberry culture is, after all, an expensive and often unsatisfactory operation.

Some of the most prominent members of the American Pomological Society at Philadelphia, last September, expressed the opinion that the true reason why strawberry culture was not more profitable, was simply *because the people grew only the Wilson.* Everywhere the markets are filled with Wilson. Sometimes it is good, more often small and poor. But where fancy strawberries of new varieties appear in the markets, the disparity between the high prices obtained for them and the moderate prices given for the Wilson, show that if we desire to make strawberry growing truly successful we must have some variety better than the Wilson.

We think that the remarks made by these gentlemen are truly correct.

If we were asked by a beginner just starting strawberry growing what varieties to cultivate, we would say: first, take the Wilson to start with; at the same time, select twenty-five of the best varieties you can find, and plant on your soil. Your first crop of Wilson will be only moderate; your second crop will be your best; and then your plantation should be renewed. During these two years your specimen bed will show you what varieties do best, and if you can find any of the new varieties growing well, and firm enough for market, plant that out, and stick to it, as if your fortune was in it.

Another thing: growers have long since settled down upon this important fact, that *new seedling berries do best in the native region where they were originated.*

And it is almost a waste of money to invest in new varieties largely, originated in distant sections of the country. There are a hundred chances of failure against one of success.

The most valuable requisites needed now in new strawberries are: 1st, firmness, as good as the Wilson; 2d, uniform crops of uniformly large fruit; 3d, adaptability to different soils, as well as the Wilson; 4th, flavor fair, but neither too acid nor too sweet. In the first and third particulars the Wilson strawberry is unexcelled; but alas! for its *failures.* Its crops are irregular, and flavor uncertain.

We have hopes of the many new varieties—Barnes, Monmouth, Charles Downing, Michigan Seedling, and some others; but we are obliged to retain the Wilson. Gladly would we yield it to some more successful competitor, but where can it be found?

Cost of a Screen of Norway Spruce.

A young planter inquires the cost of a good screen made of Norway spruce-trees, intended to form both a screen and a barrier—not for the exclusion of rampant cattle, but to prevent the ordinary passage of men and animals.

For this purpose, trees set three feet apart would probably answer the desired end completely in the course of six or seven years, and partially in four or five years, or even sooner—especially if the soil is kept clean, mellow, and well cultivated for several feet on each side of the line. The trees, if they have been carefully taken up, and set out well, will recover from the check of removal in a year or two, if two feet high—say one year is entirely lost by transplanting. If three or four feet high, they will not recover quite so soon; but much will depend on the care and skill of the operation, and on a moderate cutting back in the spring when set out. They will grow about three feet a year, (only one and a half if not cultivated,) and in six years will be fifteen feet high if desired, or if not shortened down any. Plants from one to two feet high may be had for about fifteen dollars per hundred, of the larger nurserymen—of some, cheaper, and a hundred will set out three hundred feet, or eighteen rods. The plants, freight, plowing, setting, etc., will cost with the trees, about one dollar per rod, if of this size, but they may be selected of smaller size, so as not not to come to more than sixty or seventy-five cents, set out. Cultivating the ground for a few years, till the trees are well under way, so as to keep them clean, and the necessary cutting back, need not cost more than twenty-five cents a rod, if repeated five times a year for three years, and twice a year for two additional seasons. By repeating it often, the work will be less expensive, and be of much more use, than if done at remote intervals. With interest, the screen, when seven years old, will not cost two

dollars a rod, and will not exceed in expense a good post and board fence. The screen must not be sheared, but projecting and obtrusive limbs shortened back. The side limbs and shoots will form such a barrier that neither men nor animals will be disposed to go through, unless some great and special inducement invite a hard effort.—*Country Gentleman.*

Removing Evergreens.

The St. Paul Press thinks November is the best time to plant evergreens:

"We consider November, or any time after the ground is frozen hard, by far the best time to remove large evergreens of most kinds. In this list we include the Norway spruce, balsam fir, arbor-vitæ, our native spruces, and white pines, if they have been properly grown in the nursery. The Scotch, Austrian, and Norway pines are exceptions to this rule.

"Our plan is to dig around the trees just as the ground is about to freeze up, leaving a neat ball from the size of a bushel-basket upward, according to the height of the tree to be removed. After a few cold days, the ball is very easily loosened with a pry, when from two to four men remove it from the place where it grew to the wagon or sleigh.

"Any one who understands how difficult it is to get the roots of evergreens established in the soil, will readily admit that this must be the best plan.

"In this way the tree is taken up with the roots in the earth, just as they grew; hence the secret of their not rotting when removed, or being killed by exposure to the sun and winds, as most evergreens are that are sold in the spring, especially if they come from a distance.

"Mr. Bennett, of St. Paul, set out some forty evergreens in this way during one of those dry seasons when so many trees were lost of all kinds. Out of the entire lot only one failed, and to-day it is the best collection of evergreen trees about the city. No doubt, the beautiful Norways, pines, balsams, etc., had much to do in the way of selling the place, for all who are in search of a pleasant home, do like to see it surrounded with evergreens, that are delightful to look upon, not in summer alone, but doubly beautiful in winter."

We could not advise this mode for the climate of New-York, however suitable it may be to that of Minnesota. The only evergreen we have succeeded in transplanting, in late autumn, has been the hemlock spruce. For this we would prefer the fall to the spring, but in all others we find the months of May and June most preferable, and uniformly most successful.

The Ailanthus as a Timber-Tree.

THE editor of *The Agriculturist* throws in a plea in behalf of the ailanthus for timber purposes:

"Its rapid growth, utility of timber, its hardiness, and the readiness with which it adapts itself to unpromising soils and localities, are points which should strongly recommend it to planters.

"For small posts, stakes, or other uses, for which trees too young to have blossomed will answer, they may be raised from the seed. Experiments, made in France, show the wood of the ailanthus to have less density than that of the oak, and greater than that of the elm, while it is superior to either of the two in elasticity and tenacity.

"A French writer states that he knows of ailanthus planks which have been exposed to the weather for twenty-seven years, without shelter or paint, and that the wood is perfectly preserved. The same author quotes instances in which the wood has been used for agricultural implements, etc., and it neither warps nor cracks. The wood saws readily, and afterward acquires great hardness under exposure to the air. It has also been used for cabinet-work, and Mr. McCullough has found it one of the most available materials for vineyard stakes. A small plantation will keep up a supply of stakes, as, when cut off, a new growth springs up from the root. With all these facts in favor of the ailanthus, and only one against it—that of its unpleasant odor when in flower—we suggest to those about to plant trees, to give it a share of consideration."

Strawberries in Michigan.

THE most prolific sorts I have are Wilson, Russell, Green Prolific, and Downer's Prolific. French Seedling, Fillmore, Jenny Lind, and Hovey are good bearing kinds. The Wilson has better resisted the rot this year than most other varieties. But as to quality, when I wish strawberries to serve with tea, or to eat from the vines, it is the most natural thing in the world to pass the bed of glowing Wilsons, the luxurious Green Prolifics, and magnificent Russells, right on to the bed of moderate bearing, medium sized, but delicious Hookers. I have a variety obtained from Mr. William Prince, of Flushing, named the Welcome—not as splendid as recommended, but of good flavor, and quite early. The Belle Bordelaise, also from Mr. Prince, a Hautboy variety, is quite remarkable this year, bearing abundantly. Its flowers are large and conspicuous, almost entitling the plant to a place in the flower-garden. The fruit has a peculiar rich, sweet flavor, (not much liked by some, however.) I shall retain

this variety for my own personal use. The Green Pineapple is utterly worthless. The Alpine Red is of but little consequence with the treatment it receives from me. The Wilson is the berry for productiveness, solidity, and endurance. It bears many small berries, but then it bears many large ones, too, especially at the first picking. Its faults are want of flavor, and bearing its fruit too near the ground. The handsomest berries I have are the Le Baron Pine, a dark glistening crimson of good shape, fair size, and flavor. I am not sure that they are different from McAvoy's Superior, or Bonte de St. Julian. I once thought the Napoleon III. and Austin were identical, but I have since seen the true Napoleon, growing in a neighbor's garden on rich, sandy soil, where it was a splendid sight to behold. With me the Metcalf proves to be a pretty good early kind.

Last year I received the Charles Downing, Durand, Philadelphia, and Jucunda. The Charles Downing is a promising, vigorous variety, the berries nearly all large when ripe, of good flavor, borne on long stems, and quite prolific. Some of the berries are very large, of rather rough, triangular form. In my garden, the Durand amounts to nothing; but on a neighbor's ground, with whom I divided plants, they make a very fine appearance. His were set on new, black, sandy soil, mine on heavy clay—otherwise their chances were equal. In the Philadelphia, I think I gained an acquisition in early kinds. The Jucunda promises good things when it is fairly established.—*Country Gentleman.*

Fruit-Culture at Richview, Ill.

A COMMITTEE of the Richview Horticultural Society, at the above place, lately made an interesting report of the present state and development of fruit-culture in their vicinity.

"In this immediate vicinity we find there are planted, peach-trees, 95,000; apple, 20,000; pear, 7500; cherry, 2500; quince, 3000; grape, 16,500; gooseberry, 1800; currant, 2000; blackberry, 10,000; raspberry, 20,000; acres of strawberries, 21.

"Of the above number of trees and plants, the great majority is not yet in bearing condition. The number of peach-trees which actually bore the crop this season is about six thousand. Four thousand produced three fourths of the crop.

"With slight exception, the high ground has yielded the most. The varieties which have been the most productive this year are, the Hale's Early, Serrate Early York, (both rotting badly,) Tillotson, Galbraith Seedling, George the Fourth, Kensington, Yellow Rareripes, Portermixon, Oldmixon, Orange Free, Red Cheek, Melacoton, Heath Free, Ward's Late, Scott's Nonpareil, Smock Free, Heath Cling, and a nameless variety by Mr. Wilgus. But few Troths or Crawfords could be found.

"The peaches have been remarkably free from curculio, and have brought prices for most of the season in advance of quotations.

"The apple-trees which are in bearing condition are productive, this year's crop being mostly on the trees. Cherries were good. Grapes have rotted badly. Currants and gooseberries have produced a good crop. The strawberries were very productive. In one case 250 bushels were grown from one and one third acres.

"We find, upon inquiry, that sales of peaches have reached 30,000 boxes; apples, 1000 barrels; pears, 1000 boxes; cherries, 500 cases; strawberries, 22,000 quarts; tomatoes, 10,000 boxes. There have also been put up about five hundred dozen commercial cans, and five hundred one-gallon cans of peaches, by Mr. Wilgus, our largest orchardist. In addition to the above-enumerated articles, there have been shipped large quantities of melons, squashes, cucumbers, and other garden productions."

The fruit interest and production of the West are developing at a rate of unparalleled magnitude, and exceeding, we fairly believe, any similar section in the entire world.

Propagating Plants of Raspberries, Blackberries, etc., by Root-Cuttings.

THE *Small Fruit Recorder* has a practical little article on the subject, which we commend to the attention of cultivators:

"The roots may be taken from the ground as soon as the leaves have fallen, and the plant has ceased growing for the season. Cut them in pieces from two or three inches in length; those varieties which naturally produce suckers from the roots more abundantly, will allow of the shortest division of the root. If the cuttings are obtained or received before the ground is clear of frost, and suitable for planting in the spring, pack them in layers of moist sand in a cellar, or the ground secure from intense freezing. This enables the callousing or bark-healing process, (a cellular growth of cambium or healing of the inner bark,) to be effected, which precedes the formation of the young roots, for if the cutting does not callous, or heal, it decays and dies. If received after freezing weather is past, pack as before in a warm situation, in open air, in a heap layered with plenty of sand, shaded by boards or litter to prevent drying, (by no means let them get dry.) In about two weeks they will callous, and buds begin to be visible, more or less, on the surface; from this they (the blackberry particularly) may be planted direct in garden or field, in well pre-

pared ground, in shallow drills, or furrows, eight or ten inches apart in the drill, and in field culture the drills three feet or more apart; cover about three inches deep with fine earth; if the ground is not already rich, use mild fertilizers in the rows; avoid using long or unfermented manure in contact with the cutting, but apply on the surface as a mulch. It is important after planting that the ground does not get hard and dry. Give good culture through the season, and fine plants may be confidently expected.

"Some kinds of raspberry develop root-buds very slowly with ordinary care, and are not adapted to out-door planting at once, but require a little forcing. Where a propagating house is not available, an ordinary hot-bed may be used, and a slight under heat, by forest leaves and stable manure well mixed; pack smooth, about four inches deep in the bottom; cover this with fine earth one inch deep; place on the cuttings; sift on clean white sand, till covered evenly one and a half inches deep. White sand radiates and transmits the sun-heat more evenly, and preserves a more constant temperature and moisture. Keep moderately moist all the time, and the sashes over them, and a moderate temperature, till leaves are forming at the surface; then move the sashes enough to give ventilation, particularly while the sun is shining. When the young plants are sufficiently grown, transplant them in moist weather into the field or nursery-row.

"This course, with care, produces excellent plants for sale or future propagation."

The Walter Grape.—Report of the Committee.

HAMMONDSPORT, Nov. 3, 1869.

The undersigned, a sub-committee appointed by the New-York State Grape Growers' Society, have this day made a thorough test, with the saccharometer, of the Walter Grape, presented by Ferris & Caywood, of Poughkeepsie, N. Y.

One and a half pounds of the grapes were mashed, and the must marked 104 degrees on the scale. We consider it one of the best, if not the very best, wine grape of America.

J. LARROWE,
J. D. MASSON,
GEORGE W. NICHOLS,
} *Committee.*

The American Aloe.

A CORRESPONDENT of *The Tribune*, accompanying the Seward party in their visit to Mexico, has had a funny experience in drinking the liquor of the Mexican Aloe:

"A bottle of the fiery liquid distilled from the mescal plant, otherwise called the 'American aloe,' or 'century plant,' which blossoms in this latitude once a year, instead of once in a hundred, as is commonly believed at the North—called '*mescal*,' or '*tekela*'—is sold at the little wayside stands for six and a quarter cents, and it will produce as much drunkenness as a barrel of North-American whisky. I took one drink of it, under the supposition that it was *annisette* or some other light liquor, swallowing possibly about an ounce, druggist's measure, before I smelled the burning flesh as the lightning descended my throat. As I sat down the glass, my head began to increase in size so rapidly that I saw at once that unless I got outside immediately, the door would be too small to admit of my passing through it. Seizing my hat, which appeared to have become of about the size of an ordinary umbrella, I turned it up edgewise, and succeeded by a tight squeeze in passing through the door; the street then appeared funnel-shaped, and I remember an odd fancy that I was to resemble the man who 'went into the big and came out the little end of the horn.' Curiously enough my legs decreased in size as my head enlarged, and my last recollection of the affair is that my person resembled a sugar-hogshead walking off on two straws; body I had none. No more *tekela* for me, please! The teamsters and muleteers drink this clear, colorless, harmless-looking concentrated lightning with apparent impunity; but a single bottle of it will cause a rebellion among an entire regiment of soldiers, and very likely result in a *pronunciamiento* on the spot."

The Grape Season in Ohio.

F. R. ELLIOTT communicates to the *Germantown Telegraph* a few paragraphs in reference to the last grape season near Cleveland, Ohio:

"Here around Cleveland, within say twenty miles each way, (forty miles,) the Catawba and Concord, Hartford, Telegraph, Ives, Norton, and some few others, even Maxatawny, have ripened, but the bunches have been irregular and loose, and in the Catawba many single berries entirely green, causing labor to clean them before packing. In some localities, the Catawba, and even Concord and Martha, have rotted. Delaware has ripened very irregularly, some vines ripening perfectly, while at a distance of only twenty feet they only faintly colored. Iona has only ripened in a few localities; in most vineyards, it partially colored early and there remained, so that, side by side, it has not matured as well as Catawba. Isabella also colored early, gave good compact bunches, but the fruit was so sour that all passed by them for Concord or Hartford. Crevelling, (syn. Laura Beverly,) as usual, good in quality, but poor bunch. Adirondack only second. Alvey good, but very poor bearer and small.

"We had no frost until the 20th of October, but from that to the present it has been quite cold, and, as I write, ice is near an inch thick, the ground frozen two inches or more, and all the crops of grapes that were not gathered and really unripe are valueless for any purpose but making of wine by aid of Gall's or some other artificial method of additions of alcohol. All, or nearly all, of Rogers's hybrids have behaved badly on the Lake Shore this year—mildewing, losing foliage, setting poor, broken bunches, and not ripening."

Gingko-Tree.

A FINE specimen of the gingko-tree is now existing at Whitfield, Herefordshire, England, known as the Woolhope Tree. It measures seven feet two inches in girth, at five feet from the ground; is fifty feet six inches in height, and has a diameter spread of foliage of forty feet. It is graceful in form, resembling a beech in outline, and is supposed to have been planted about 1776, and therefore is about ninety-six or ninety-seven years old.

The finest specimen we have seen in the United States is on the former grounds of Charles Downing, at Newburg, N. Y., which is about twenty-five feet high.

Foote's Seckel Pear.

MR. A. FOOTE, of Massachusetts, has grown a pear from seed of the Seckel which seems to promise well. The tree is said to be more vigorous than the Seckel, and equally hardy and productive; the fruit is larger and broader, with flesh much like the Seckel. It ripens in September, but will keep through October.

Fruits for Delaware and Maryland.

A CORRESPONDENT of *The Country Gentleman* gives his notes as follows for Delaware:

"Pear culture is receiving some attention, and promises to be remunerative where a proper selection of kind is made. Dwarf pears have generally proved a failure, with the exception perhaps of the Duchesse, Bartlett, Buffum, Anjou, Boussock, Lawrence, etc. Standards succeed with the same management that the peach requires. Blight in the pear has not been serious thus far, and some varieties appear to escape entirely, among them the Lawrence and Duchesse, and most varieties begin to bear on pear-stock in five or six years from the bud."

The Rural Gentleman gives the following selected list for Maryland:

PEARS.

Manning's Elizabeth, Lawrence, Bartlett, Seckel, Belle Lucrative, Columbia, Winter Nelis, Duchesse d'Angoulême, Glout Morceau, Flemish Beauty.

PEACHES.

Hale's Early, Large Early York, Troth's Early, George the Fourth, Crawford's Early, Heath, Melacoton, Rareripe.

CHERRIES.

Gorwood, Black Tartarian, May Duke, Black Eagle, Yellow Spanish, Downer's Late.

Effects of Mulching.

WE had a good opportunity this year to see the effects of mulching.

Some corn had been planted on one side of our stack of mulch, and some strawberries on the other. The hay gradually slid down, and partially covered two rows of corn and strawberries. Wherever the plants were protected with the mulch, they grew of a deep green, vigorous and large, while all beyond them, upon the unprotected ground, were but one fourth their size and luxuriance. The short lesson we can learn from this is, mulch in summer as well as in winter and nothing else is so efficacious against the evil effects of dry weather.

Value of the Ives Seedling Grape.

THE editor of *The Prairie Farmer* thinks it equal, and in some respects superior to the Concord.

"During the past two years, in several different States, we have seen the Ives standing side by side with the Concord, both varieties planted at the same time and tended alike, when from ten to sixty per cent of the Concord grapes had rotted, while on the Ives every berry was sound. In the past summer, our attention was several times directed to rotten grapes on the Ives, but in every case, after a careful examination of the decayed berries, we determined the rot to proceed from the wounds made by the grape codling. The Ives grape colors, so as to be put upon the market some days earlier than the Hartford Prolific, and becomes fully ripe about the same time, or a little earlier. For wine purposes it is equally as good as Concord, and by some it is considered preferable. The Ives grape has the merit of hanging on the vine uninjured until frost, or weeks after all the Concords would be cracked and spoiled. As a

table grape, when eaten in comparison with the Concord, we find tastes to differ, about as many preferring the one as the other. We desire you to give the Ives a trial. Under good cultivation, the Concord makes a full crop of grapes in its third year, the Ives the fourth. The vines of both varieties are hardy, and both resist the attacks of thrip equally well."

We would add that, with Messrs. Parsons & Co., of Flushing, Long Island, it is considered the most profitable variety that can be grown for wine purposes, but will not sell as well as the Concord in the markets for a table grape.

Profits of Grape-Growing.

We have been asked, How great are the profits of grape-culture?

In *Landmarks*, Dr. Grant says twenty-five hundred vines can be grown to an acre, and after the third year of bearing, growers can depend upon five pounds per vine. This would be *six tons* per acre.

We consider such estimates very deceitful, as they are never realized.

As Concord vines are now planted in rows six feet apart, and eight feet in rows, giving eight hundred and twenty-five vines per acre, we should say that a good crop per acre, year after year, would be *two tons*, or four thousand pounds, or an average of five pounds per vine. We do not think this estimate is often exceeded for any series of years.

The prices of grapes this year have averaged eight to ten cents per pound. Deducting the expenses of marketing, the grower has hardly averaged more than seven cents per pound profit, or from two hundred and fifty to three hundred dollars per acre.

The high estimates formed by some, of five hundred to one thousand dollars per acre, are very delusive.

We would consider any vineyard or fruit-ground a good property that yielded a steady income, clear of all expenses, of two hundred dollars per acre per annum.

"When will my Plants Bear?"

This question is often asked by very impatient ones, in their eager desire for fruit. *Strawberries*, if set in the fall, will bear the next season; but if set in spring, they should *not* be allowed to bear the same year, as the light crop would not pay for the injury to the plant, which, in fact, in some instances, would be entirely destroyed. They will produce their best crop the year following. In *Raspberries*, the sucker sorts, which often have a strong cane two to four feet high, will produce fruit or spurs thrown out from that cane or stock the first year. But this is not advisable, as it exhausts the root and lessens the growth of the new cane that is to bear fruit the next year. If you are anxious to see the variety, leave one or two to bear, and cut off the others near to the ground. The tip sorts having nothing but roots and germ, and nothing above ground, produce only canes the first year, and fruit well on those canes the second year.

Blackberries, same as sucker raspberries. *Grapes*, if two year old vines are set, and bearing wood left on, will give fruit on that wood, but also to the injury of the plant. Whether plant is large or small, it is better to cut to two or three eyes, and the new growth from these eyes will bear well the following year.—*Small Fruit Recorder.*

Cultivation for Drought.

A severe drought the past summer affected the many strawberry and small-fruit plantations, and their owners had an opportunity to speculate as to how best to overcome the evil effects. In our own case, we redoubled our exertions. We mulched our trees that had been newly planted, and they all grew handsomely; we cultivated our strawberries with four-fold vigor, and though for three months no rain came sufficient to wet the soil, yet they have lived and grown thriftily. We therefore say to all cultivators, keep the cultivator well in motion; stir the soil freely in times of drought, and it will be found an effectual means of safety.

Plums for the West.

The Prairie Farmer recommends the following:

"There are several of the finer varieties of the plum which are perfectly hardy. Perhaps Imperial Gage, for a single variety, for a profitable market sort, would prove as good as any, but we would advise you to plant several varieties. From our experience, we should say plant Washington, Jefferson, Smith's Orleans, Coe's Golden Drop, and Domine Dull. If you plant for the protection of your orchards against the curculio, then we would recommend Columbia. Of the above list, Washington is by several days the earliest plum; but far north, under ordinary treatment, it would be most likely to winter-kill to some extent in the tree, and in the bud. Columbia, also, has a large fruit-bud, and, in severe winters, a part of them sometimes are winter-killed."

A Visit to a Flower-Farm.

How Flower-Seeds are Grown—The Poetry of Gardening.

THE Rochester (N. Y.) *Express* describes the flower-garden of our well-known horticulturist, James Vick:

"The warm, pleasant weather we have enjoyed for a few days past rejoices not only the farmer, but seedsmen and florists as well. Mr. Vick's fields of flowers are now in their glory, and are well worth a long visit to see. We know that many visitors travel miles to see them, and find themselves well repaid for their trouble. On his home farm of twenty-five acres, on East avenue, just outside the city limits, he has fully ten acres devoted to flowers, mostly annuals.

"The flowers are mainly grown for the seed, and beauty is only an incident in their culture. Mr. Vick finds that many varieties of flowers are so especially adapted to our hot, dry climate that they grow more beautiful and perfect better seed than in Europe. Years ago almost all seeds of choice flowers were grown in England or France. Some are yet; but many varieties grow better here than there, and London seedsmen are importing the seeds grown in Rochester. One London house has offered to take all the Phlox Drummondi for a term of years. His Zinnias are also superior to any that can be grown in England, or to any that are grown in this country. Many of them are as double and perfect as the finest dahlias, and of every imaginable hue expect pure white.

"Zinnias are famed all over the world where flowers are grown. The history of this flower is curious. It is a native of Mexico, and was originally introduced to England in 1796. Our grandmothers and great-grandmothers used to grow the Mexican Zinnia under the fanciful name of 'Youth and Old Age.' It was not remarkable for beauty, or any thing except remaining in bloom a long time. The flower was very single, poor-looking, about as large as an old-fashioned quarter-dollar, with a narrow rim of flower leaves around it. In 1860, Messrs. Vilmorin, Andrieux & Co., florists of Paris, succeeded in growing a double Zinnia, and it was exhibited as a great curiosity in London. About that time Henry Ward Beecher wrote a letter to Mr. Vick, who was then editing the Horticultural Department of the *Rural New-Yorker*. Mr. Beecher wrote that he had watched a Zinnia flower six weeks, and it was as bright at the end of that time as at the beginning. He thought the Zinnia deserved more attention. Mr. Vick at once took the Zinnia in hand and began its improvement. Selecting the finest flowers each year, and pulling up all plants that produce single flowers, he has fully established the double flowering habit. Some of his finest Zinnias are three to four inches across, as beautiful as dahlias, and of almost every shade of color, the crimson, scarlet, or magenta being most common. Some of the flowers are more than double, the banks of leaves being two and a half to three inches deep, and bending the stalk by their weight.

"The Petunia has been quadrupled in size and grown double, of various shades. The original flower was very small, white and always single. Now the seed produces large flowers, seventy-five per cent of them double, and of various beautiful shades. The double Petunias produce no seed, and the seed to grow double flowers from all has to be artificially fertilized every morning with pollen from the double flowers, which are cut off for that purpose. This operation requires great care, cutting out all the pollen on the single flowers so soon as they expand. It must also be performed under glass, or dews and rains would wash off the pollen and destroy the seed. Of course double Petunia seed grown in this expensive manner is scarce and high-priced.

"The Asters are large, beautiful, and bright. These almost always come true to color; which is not the case with Zinnias or Verbenas.

"The double German stock is one of the finest flowering plants, and the most difficult to save seed. Double stocks have no seed, and the flowers are forced into fruitfulness by starving the plants under cover until they can no longer produce double flowers. Then they will seed profusely, and 50 to 75 per cent of this seed will produce double flowers.

"A half acre of Verbenas presented a magnificent spectacle. Each plant spread over two to four square feet of ground, and was covered with these beautiful flowers. Inexperienced florists are apt to cramp their Verbenas by planting them too closely.

"The Gladioli were just coming into bloom, and occupied about an acre and a half of ground. One very fine variety, the James Carter, stands erect, and is not quite so large as others. Each root increases to two, three, or four roots during the season. Some fine Lilies and Dahlias are just beginning to blossom."